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THESIS

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IN THE IMPLEMENTATION OF THE
SHIP PROJECT DIRECTIVE PROCESS

by

John Henry Morgan II

and

Norman Stuart Scott

Thesis Advisor: M. G. Sovereign

September 1973

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An Evaluation of the Problem Areas in the Implementation of the Ship Project Directive Process

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ABSTRACT

The Ship Project Directive (SPD) System is the vehicle by which all Ship Acquisition Project Managers (SHAPMs) transmit their plans and requirements to a Participating Manager (PARM) for the procurement of Government Furnished Materials (GFM). Problems associated with implementing the SPD System, as defined by NAVSHIPS Instruction 7000.29B, were identified and investigated by interviews and questionnaires. As a result of this investigation, specific recommendations are made which will, in the authors' opinions, correct these deficiencies in the process.

ACKNOWLEDGEMENTS

The authors wish to express their gratitude to Professor M. G. Sovereign and Commander P. DeMayo for their advice and assistance during the course of this research. Sincere thanks are also extended to all those members of the Naval Material Command who gave so generously of their time to provide us with the opinions and viewpoints so vital to this work.

I. INTRODUCTION

In testimony before the Proxmire Sub-committee on Economy in Government of the Joint Economic Committee in May 1970, F. Trowbridge vom Baur has stated that some 10-12 billion dollars are wasted annually in the Department of Defense Procurement process. He further asserted that elimination, or at least minimization, of this waste was well within the capabilities of the Executive branch of government.

In supporting this viewpoint Mr. vom Baur addressed several areas where governmental inefficiencies resulted in waste, late delivery of equipment and unacceptable cost over-runs -- all as a result of poor management practices on the part of procurement activities within the DOD. Among the areas which he cited as illustrative of this governmental mismanagement were delays in delivery of Government Furnished Equipment (GFE: Equipment and subsystems procured separately by the Government for installation by the contractor) and Delivery of Defective Government Furnished Equipment both of which open the door for the contractor to file a claim; a claim which will ultimately contribute significantly to a cost over-run. Without identifying the program he cited an example of delivery of a government furnished boiler for a warship fourteen months late -- fourteen months in which the contractor's work was seriously curtailed and in

which the government ultimately paid for at least a portion of the costs associated with that delay. Additionally, he has cited instances where the shipbuilder has been prepared to receive one model of a particular piece of equipment (as specified in the Schedule A of his contract) and, instead, received a later model; one which necessitated extensive rework. This rework again comes back to haunt the government as a claim and an over-run.

Without arguing either the pros or cons of Mr. vom Baur's premise there is some evidence that there is more than a grain of truth in what he has said. In the late 1960's many, if not all of our shipbuilding and ship conversion projects were characterized by the claims and massive cost over-runs which he asserts are the inevitable results of late delivery of GFE, delivery of defective GFE and of several other factors. While these particular problems are, no doubt, present in the acquisition process of every major system in which GFE is an integral part of the program, nowhere does it approach the problems present in ship projects. Only in a ship project does coordination of the efforts of so many people in all of the Systems Commands (SYSCOMS) approach such proportions that a successful interface is a monumental achievement.

In 1969 the Naval Material Command (NMC), via NAVMAT Instruction 7000.14, established the framework for what has since evolved into the Ship Project Directive (SPD) System. Commander, Naval Ship Systems Command implemented the system via NAVSHIPS

Instruction 7000.29. For a variety of reasons this instruction has been modified several times since it was first conceived and the current version is NAVSHIPS 7000.29B. A draft version of NAVSHIPS 7000.29C is currently being reviewed by the various components of the NMC and issuance should occur sometime in late 1973.

When initially implemented the instruction required that all Ship Projects chartered within NAVSHIPS document their transactions with supporting or participating managers (PARM'S) by SPD's. While this, quite naturally, resulted in complete compliance, for those projects whose commitments had already been made the SPD served little more than an historical record of events transpired. The true potential of the SPD process could only be realized by those projects which were still in their definition stage and in which the commitment of funds for GFE items had not yet occurred.

Because of the rather extended time in which a ship project is active, those projects which were in their infancy when the SPD system was implemented are still quite active and hence the success (or failure) of the system is indeterminable. This is compounded even further by the many changes which have occurred in the SPD process itself (two major revisions in the implementing instruction thus far and a third pending). Thus the true value of the SPD process remains to be tested. Whether or not it will provide the Ship Acquisition Project Manager (SHAPM) with the visability of, and control of his items of GFE is a question which remains to be answered. Further, because of

the many other changes which have occurred during the same time frame concerning the role of project management and the philosophy of major weapon systems procurement, the true impact of the SPD system on ship procurement may never be concisely identifiable.

It is the intent of this research to investigate neither the validity nor inappropriateness of the SPD process but rather to examine the views of those who must daily work with it. Our intent has been to question the implementation of the system and hopefully to offer suggestions which will make it a more meaningful document.

II. HISTORY

The philosophy of Project Management involves the accepted concept of granting one responsible individual the complete management and financial authority necessary to direct the acquisition of a system. That this concept was not fully observed in Ship Projects in the 1960's was evidenced by the filing of massive contractor claims, significant portions of which were directly attributable to mis-management of Government Furnished Equipment (GFE): GFE administered by the various SYSCOMS, and over which the SHAPM had little or no control.

In recognition of the fact that SHAPM'S were singularly ill-equipped to control the delivery and quality of their GFE line items the CHIEF OF NAVAL MATERIAL (CNM) directed, via NAVMAT Instruction 7000. 14 of 17 April 1969, that COMMANDER, NAVAL SHIP SYSTEMS COMMAND (COMNAVSHIPS) implement a Ship Project Directive (SPD) System. It was the intent of CNM that the SPD provide a means whereby SHAPM'S could direct and control the actions of the various functional organizations of the NAVAL MATERIAL COMMAND (NMC) in the performance of SHAPM-required tasks. Implementation of the SPD system was accomplished within NAVSHIPS by NAVSHIPS 7000.29 of 5 May 1969. This initial instruction required that the

system be implemented for all FY 70 Ship Projects by 1 July 1969 and that active ship projects for FY 64 through FY 69 be incorporated into the SPD System by 1 Jan. 1970 or sooner.

The need for some process akin to the SPD System was pointedly illustrated by an NMC directed NAVY INDUSTRIAL MANAGEMENT REVIEW (NIMR) dated Sept. 1969 (Ref. 8) which recommended: "That efforts be concentrated in the development of contract-like relationships between each SHAPM and secondary manager of GFM and GFI that emphasize the need to fully define requirements in a timely manner, to maintain accurate up-to-date status of equipment design and procurement, and to establish bi-directional communications based on mutual understanding and respect for each other's objectives."

Just as is the case with any new procedure which is of an extremely complex nature the initial attempt at implementation of the SPD process contained many serious short-comings. Recognition of these deficiencies resulted in the first revision to the process, NAVSHIPS 7000.29A of 3 Feb. 1970. This revised instruction took what was initially a rather loosely structured requirement and began the standardization process which has characterized the SPD system ever since. Specifically it:

(1) established a standardized SPD Part I format.

(2) clarified the intent of having a single Part I for a class of ships.

(3) added the facility for expression of material requirements for ships of the class in the "out years."

(4) provided a simplified revision technique.

(5) standardized financial reporting requirements giving Secondary Managers more freedom in reallocating funds within the SPD envelope.

To insure that the SPD System was smoothly and effectively operating, NAVSHIPS directed, in June 1970, that an appraisal of the SPD System be conducted by SHIPS 01D. This effort spanned the period 17 June 1970 through 30 Sept. 1970. The appraisal report (Ref. 1), dated Nov. 1970, and which provided us with much of the historical background presented herein, contained 41 specific recommendations for improvement of the SPD process. The most significant result of this appraisal was a second major revision to the implementing instruction, NAVSHIPS 7000.29B of 7 April 1972.

It is this latter revision, and the problems associated with implementing it that we have attempted to address in this report. In undertaking this research we were unaware that a draft version of NAVSHIPS 7000.29C was in circulation within the various components of the NMC for review and comment. While we are in possession of the draft of NAVSHIPS 7000.29C our survey has specifically addressed the problems associated with implementation of NAVSHIPS 7000.29B. Hopefully our work will precede the issuance of NAVSHIPS 7000.29C and will provide meaningful input into that revision.

III. DESCRIPTION

A. GENERAL

To have a true appreciation of the SPD and how it is intended to work it must be viewed as a contract between the SHAPM and the PARM. It has, in fact, all those elements which are required to make a contract a legal, binding document. It represents an agreement between competent parties for the legal exchange of goods and services and the element of consideration is present in the form of an administrative assignment of funds from the SHAPM to the PARM.

Besides the contractual aspects of the SPD it also serves as an historical record of negotiated agreements or transactions between SHAPM and PARM. Thus the mutual participation of SHAPM and PARM in the Ship Project can be logically and clearly traced from initiation of the Project via "unfunded" SPD's through "funded" SPD's to delivery of the total ship and retirement of the SPD.

The SPD process can, or at least should, establish the vital communication channel which should exist between SHAPM and PARM. It formalizes what heretofore was accomplished by less formal, and hence subject to errors of misinterpretation and omission, means such as memorandums and letters of agreement. This communication channel consists of the SPD itself, the reports which the PARM is

required to provide, and the informal, but supplementary, dialogue between SHAPM and PARM. It provides the means for the exchange of information and ideas so vital to the success of a ship project. As such it can be thought of as part of a management information system (MIS), a MIS which at present is basically manual but which at some future time could be automated provided all of the SYSCOMS adopted a common Automatic Data Processing (ADP) program for tracking and reporting of their programs.

Participation in the SPD process is mandatory for all activities within the Naval Material Command (NMC) which are supporting SHAPMS for work to be performed under all appropriations categories except RDT&E. The SPD is used for tasking PARMS for both SHAPM--funded and PARM--funded work. It can be used to task activities outside the NMC but only with their concurrence which is presently conveyed via a joint letter of agreement between the SHAPM and the individual activity.

The SPD is a rather rigidly formated document consisting of a transmittal page and three basic parts: (1) Management Direction (2) Funding and Quantity Direction and (3) Delivery Direction. Because of the need to manage a single class of ships as a unit it is imperative that the SPD cover, to the maximum extent practicable, all ships of a program to be built or converted in order that PARM'S might capitalize on multi-year options or multi-year contracts.

B. PART I MANAGEMENT DIRECTION

Appendix C contains a sample Part I of the SPD. It consists of seven sections, some of which are broken into sub-sections. Section 1 is an information or background section in which is contained a brief description of the ship project and justification for the issuance of the SPD itself.

Section 2 is the action section and consists of five sub-sections: (1) Management, in which the SHAPM'S desires concerning such areas as configuration management, data management, security, cost and schedule management, software appraisal, delegation of authority and committee and board membership requirements are delineated (2) Ship System Engineering, in which areas such as quality assurance, risk management, human engineering and system test and evaluation are definitized (3) Equipment Engineering/Production Standardization, which conveys the SHAPM'S program goals with respect to the various systems engineering disciplines such as reliability, maintainability and safety (4) Integrated Logistics Support and (5) Special Government Furnished Information (GFI) Requirements.

Sections 3 thru 6 address, in order, Schedule, Shipping Instructions, Special Instructions, and Reports.

Finally Section 7 is the Format Guide Statement. Although there is some leeway as to the wording of this statement it is generally a statement such as: "In preparing the Part I, the SHAPM has reviewed and

considered each area of the Format Guide for applicability. Therefore, any area not cited above is considered not applicable to this SPD."

While the format itself is rigid, the content is dependent upon the goals and objectives of the SHAPM, the money he has for those items which will ultimately require funding and his ability to negotiate an agreement on each item with the PARM.

C. PART II FUNDING AND QUANTITY DIRECTION

Appendix D to enclosure (1) of NAVSHIPS 7000.29B illustrates a sample Part II of the SPD. It presents in a standardized format task/item descriptions for each item being procured along with the level to which they are funded, and other funding information and accounting data.

Each SPD will normally contain more than one Part II. The first is a current year Part II which addresses the funding for the current year's quantity of ships, as defined in the FYDP. Out year ships are addressed in separate Part II's and are for advanced planning purposes only.

Each line item in the Part II of a funded SPD contains two sets of fiscal data both of which are expressed to the nearest dollar. The first is a planning estimate. The second is Current Direction of funds actually appropriated and available for expenditure. As stated earlier the SPD is an administrative assignment of funds. Actual transfer of

funds to the PARM is accomplished by other means. In the case of NAVAIR and NAVORD the funds are transferred to the PARM by a Program Funding Authorization (PFA) issued by NAVSHIPS code 10. For PARM'S within NAVSHIPS, NAVELEX, NAVSUP and NAVSEC, transfer of funds is accomplished via a work request, NAVCOMP Form 140.

Part II's are priced by line item and all required fiscal reports will be in reference to the line item. As to what can or should constitute a line item, that is a function of each SYSCOMS' philosophy. Some SYSCOMS show each piece of hardware and each task as a separate line item. Others aggregate and report at the systems level and while showing the components and tasks associated with that system the price of these components and tasks is not specified.

D. PART III DELIVERY DIRECTION

Appendix E to enclosure (1) of NAVSHIPS 7000.29B presents a sample Part III of the SPD. It consists of three separate delivery schedules: (1) The Government Furnished Equipment (GFE) Delivery Schedule (2) The Government Furnished Information (GFI) Delivery Schedule and (3) The Test Support Equipment (TSE) Delivery Schedule. The same standardized form is used for each of these schedules and only a check block indicates which it is.

Each of these schedules shows dockside, or equivalent, delivery dates for each line item of the Part II for each hull. Thus, because

it is only the SPD that is binding on the PARM it is absolutely mandatory that the SPD be issued and accepted prior to award of the shipbuilding contract. The accepted Part III can quite easily be molded into a realistic Schedule A (the list of GFE to be provided the shipbuilder along with delivery dates) to the shipbuilding contract, but the reverse is seldom, if ever, true.

IV. METHODOLOGY

In undertaking this research our approach consisted of three distinct phases. The first step was a study of the documentation describing and implementing the SPD System, an examination of several SPD's currently active, and a study of an appraisal of the SPD System conducted by the NAVAL SHIP SYSTEMS COMMAND in 1970. By this means we were able to identify what we viewed as potential problem areas within the SPD system.

The second phase consisted of extensive interviews with working level members of several SHAPM staffs, other NAVSHIPS functional codes, PARMS within each of the SYSTEMS COMMANDS and the NAVAL SHIP ENGINEERING CENTER (NAVSEC), and members of the NAVAL MATERIAL COMMAND (NAVMAT). During these interviews opinions were solicited regarding the specific problem areas which we had identified, and other possible problem areas were brought to our attention. As a result of these interviews those areas which appeared to be of most concern with those charged with implementing the SPD system were identified.

The third stage consisted of addressing the problem areas identified in a questionnaire for SHAPMS (Appendix A) and a separate, although similar, questionnaire for PARMS (Appendix B). After contacting all

those individuals whose views we desired to solicit the questionnaires were sent to all except one of the ship projects currently chartered within NAVSHIPS, one PARM within NAVSHIPS, and the 05 functional codes of NAVAL AIR SYSTEMS COMMAND (NAVAIR), NAVAL ELECTRONIC SYSTEMS COMMAND (NAVELEX), NAVAL ORDNANCE SYSTEMS COMMAND (NAVORD), and NAVSEC. Although the questionnaires did not ask for the level or grade of the respondent, in the case of the SHAPM'S each was asked, and assented, to review the questionnaire prior to returning to us.

The DISCUSSION Section of this report addresses each of the eight areas identified as potential problem areas. In presenting the results of the survey the SHAPM'S tabulated responses to a particular question are presented, along with those of their amplifying remarks which give some insight into their view of the area addressed. This is followed by the PARM'S tabulated responses to the same or similar question, along with their amplifying remarks. Statements and opinions expressed in interviews are interspersed throughout the text and are so identified. The researchers comments are also clearly identifiable. Conclusions are presented at the end of each specific problem area.

V. DISCUSSION

Before addressing the problem areas which we have examined it is, in our opinion, important to examine the SHAPM-PARM interface.

When we initially began this research it was our belief that a PARM was the actual commodity manager within the various SYSCOMS. Thus we viewed the SPD as a means of establishing the communication channel between the SHAPM and the Project Manager of a required item of GFE. Perhaps, in the infancy of the SPD System, this was the case, but it is no longer true. Currently, a PARM is an administrative entity which stands between the SHAPM and commodity manager. Physically, a PARM is a part of the 05 functional code of the various SYSCOMS. He is a buffer between the SHAPM and the commodity manager and in all instances he is the SHAPM'S point of contact for matters pertaining to a Specific SPD. While he relies on the expertise of the commodity manager and of various other functional codes he is the negotiator in matters relating to an SPD.

While this might appear as an artificial way of doing business it affords what we feel are significant advantages. Principal among these are:

(1) Even though a SHAPM may require several different items of equipment from a particular SYSCOM he is only dealing

with a single individual and so can write a single SPD. Therefore a SHAPM would only be required to write and administer approximately a dozen SPD's rather than the hundred, or more which could result if he was required to write a single SPD for each item of GFE.

(2) It isolates the small staff of the commodity manager from the queries of several SHAPM'S who require his product.

At the same time the PARM, as he presently exists, can, from a SHAPM'S viewpoint, be a formidable obstacle. He is, as presently structured, a potential filter between the SHAPM and the individual who is actually procuring the SHAPM'S GFE line items. Without questioning either the ability or the integrity of the PARM, it is his job to protect the interests of his SYSCOM and as such it is inevitable that an adversarial relationship will exist between SHAPM and PARM.

During our interviews one PARM remarked that what was needed to effectively interface the SHAPMS and PARMS was a coordinating agency within NAVSHIPS to consolidate SHAPM requirements, assign priorities to each ship project, and act as a negotiator on behalf of the SHAPMS in their dealings with PARMS. At the time, and in the context of that particular interview, it seemed like a reasonable solution to the SHAPM-PARM interface. In retrospect, however, it would, in our opinion, constitute a very real erosion of the SHAPM'S authority and primacy and would inevitably degrade the SHAPM'S ability to

perform rather than enhancing his position as a Project Manager charged with procuring the most complex weapon system procured within the Department of Defense.

In our opinion, the SPD process was created to give the SHAPM not only control on his ship project but to bridge the artificial barriers erected by the SYSCOM charter system as well. In investigating the SPD system we have attempted to address whether or not these two objectives have been realized. We were able to identify and investigate eight significant areas where problems existed. Others were brought to our attention later and though mentioned in the discussion which follows insufficient data was available to warrant either detailed discussion or recommendations by us.

The eight areas which we have addressed constitute areas which appeared to trouble both SHAPMS and PARMS most. The results we have presented and the conclusions which we have reached should be evaluated within the context that perhaps the PARM, as presently structured, has injected another barrier or constraint into the SPD process: a constraint that we have not investigated because it was not recognized early enough to include in our questionnaires.

After presenting our discussion of the eight problem areas, both general and specific conclusions and recommendations are presented. The specific recommendations are presented in what we view as order of priority.

A. UNFUNDED SPD'S

1. General

One Ship Acquisition Project Manager (SHAPM) has stated that "PARMS are organized to provide across-the-board sub-systems and have no real internal management capability on a ship project basis." The existence of ship projects in all stages of the acquisition cycle makes this inability of PARMS to manage on a ship project basis an interface problem of extraordinary proportions. Coordination of the individual ship project requirements operating under various stages of their funding cycles requires an intensive planning effort on the part of the PARMS if they are to provide their commodities in a timely manner and at the best possible price.

The need for this planning is tacitly recognized by the NAVSHIPS Instruction 7000.29B requirement (Reference (a)), enclosure (1), para. II A1 (C)) that unfunded SPD's (for planning purposes only) be issued 24 months in advance of the Ship Program Project Year. This is interpreted to mean the year in which SCN funds are first appropriated. By utilizing such a document the PARM, as a commodity manager, is able to consolidate the total requirements he is required to fill. Obviously he is unable to execute contracts on the basis of an unfunded document but he is in a position to incorporate (or at least try to do so) options into contracts for which he has funds. These options and their accompanying execution dates can, in turn, be of

invaluable assistance to the SHAPM in planning for his budget submissions and his schedule A of the ship building contract. It is the intent, explicitly stated (Reference (a), enclosure 1 para. IV D2), that all SPD's be in effect and preferably funded prior to executing a ship building contract. Only in this way can a realistic Schedule A be incorporated into the contract and thus the prospect of a constructive change due to late delivery of GFE minimized. Obviously, then, the unfunded SPD can serve a vital function and provide a means of minimizing the interface problems inherent in the matrix concept of ship procurement. The question then becomes "how do those charged with executing the requirement view it?"

2. Usefulness of the Unfunded SPD

In responding to the question of whether or not the requirement was realistic and one in which compliance was easily accomplished (Appendix A, question A1) 8 out of 9 of the SHAPMS answered no. An equivalent question was not asked of PARMS. In hindsight the question is, in reality, two questions and therefore only by evaluating the supporting remarks that the SHAPMS have provided do the statistics have any significance.

One SHAPM has stated that "Too many changes occur prior to contract award to make an SPD a valid document." Another has stated that "Insufficient program data is available at that time to prepare a useful SPD." Still another has replied that "a lead ship is generally

not that well defined." Even the one SHAPM who answered the question in the affirmative qualified his answer with the remark, "This is not realistic in a new ship program. It can be done with follow-ships in a class started in previous years." Comments of the remaining SHAPMS supported this viewpoint. In only one instance was the excuse of inadequate staffing that early in a ship program given.

It would seem, then, that the real concern on the part of the SHAPMS is that they are being asked to document requirements which are, at best, guesses of final ship configuration. Admittedly, configuration changes have been and will continue to be imposed upon them by higher authority which will affect their program until the final ship is delivered, but that does not invalidate the need for advance planning. Obviously, if the SHAPM issues his unfunded SPD's too early and these are followed by a plethora of configuration changes he will be viewed as indecisive and the door is open for PARMS to push their pet projects. A trade-off thus exists between the very real need for early, documented advance planning via an unfunded SPD, and the proper timing of this document. Perhaps the proper timing for issuance of the unfunded SPD should be coupled to the stability of the configuration basline rather than a seemingly arbitrary date prior to the Ship Program Project Year.

In response to the question of whether or not the unfunded SPD enabled the PARMS to effectively support them (Appendix A,

question A2) 5 out of 10 SHAPMS agreed. This apparent dichotomy is puzzling in view of the responses to question A1 indicating the nearly unanimous belief that the unfunded SPD 24 months prior to the Ship Program Project Year is an unrealistic requirement because of the uncertainty of ship configuration. Only by examining the supplementary remarks can the statistics be put into perspective.

Of those SHAPM'S who agreed with the usefulness of the unfunded SPD only one provided qualifying remarks. In his words, "In most cases, however, info from the PARM'S is obtained in sufficient detail during the preparation of data in support of POM'S." Without questioning his motives these researchers find an apparent contradiction in his answer and his supplementary remarks. He appears to be arguing that while the PARM'S can provide him with the support specifically stated in the question he has this information from other sources and therefore the PARMS support in preparing the unfunded SPD is superfluous.

Those SHAPM'S who disagreed with the usefulness of unfunded SPD's are more generous with their supplementary remarks and some interesting issues begin to surface. One SHAPM has stated, "Unfunded SPD's do serve a useful but that purpose is to permit the PARM to start his procurement action earlier." In our opinion that is, at least in part, what the requirement is all about. Another has remarked that, "During the period prior to contract award planning activities require

coordination with PARM'S. To divert the resources necessary to develop unfunded SPD's would be detrimental to accomplishment of project objectives rather than helpful." A third SHAPM feels, "Just not required SPD is too vague at this time." Finally the remark was made that, "Excluding budget estimates for Schedule "A" GFE, unfunded SPD's serve no useful purpose in ship acquisition planning. SPD requirements normally relate to PARM responsible actions after contract award." This comment is interesting from two standpoints: (1) the issue of budget estimates being useful since that, in part, is what the question asked and (2) the statement that SPD requirements normally relate to PARM responsible actions after contract award. The issue of engagement/involvement is one that is continually debated in the Government/Contractor relationship but at least at present is an accepted principle of government procurement. The implication of this SHAPM'S remark is that once accepted the SPD is the PARM'S ball of wax and the SHAPM can move on to more important matters.

In response to the same question (Appendix B, question A1) 15 out of 16 of the PARMS felt that the unfunded SPD served a useful purpose. In supporting this view one PARM has stated, "It gets us into the game early and allows for better planning. It would preclude the SHAPM from letting a shipbuilding contract that cannot always be supported by the PARM (i.e. GFE deliveries)." Another felt that,

"It forces SHAPM to make management decisions early. It may not be necessary to execute them this early." Still another remarked that, "They are also helpful to the PARM for his own acquisition plan." Somewhat contradictory another has stated that, "I agree upon 24 months. However unfunded (emphasis added) is questionable. Information contained in SAP's and other planning documents often require support." As interpreted SCN funds are not available 24 months prior to the Ship Program Project Year. Further if the planning documents which this PARM is referring to are ones prepared by headquarters personnel then they should be funded by that Systems Command's O & M funds rather than SHAPM'S SCN funds.

The one PARM dissenter as to the usefulness of the unfunded SPD has remarked, "Planning can be handled through simpler procedures, e. g. TPOM submissions. This early agreement might be useful if SHAPM or higher authority wishes to apply MIL-SPECS, etc. not normally involved." As viewed by these researchers it is precisely because of special requirements such as this example, along with the need for better advanced planning, that the requirement for the unfunded SPD was established. The NAVSHIPS Appraisal of the SPD System (Ref. 1) seems to support this view.

Although more definitive conclusions will be presented at the end of this section it seems appropriate to comment at this time on an issue which either directly, or indirectly has thus far surfaced.

SHAPM objections to the unfunded SPD appear to center around unstable ship configuration baselines 24 months in advance of Programs year and inadequate staffing. Thus they are being asked to engage in what might appear a paper-work exercise. As discussed in a previous section the SPD has evolved into a rather rigidly structured format. Perhaps a more loosely structured format is appropriate for the unfunded SPD. A format which can be expanded as requirements become more firm into the more formal SPD. This idea will be explored more fully in questions which follow within this section.

3. Level of Detail of the Unfunded SPD

When queried as to how detailed the unfunded SPD should be written (Appendix A, question A3) 7 out of 10 of the SHAPM'S felt that it should be written in sufficient detail so that only revisions to Parts II and III of the SPD would be required to translate it into a viable funded document. Of those sharing this view one SHAPM commented, "However, this may not be possible in a new ship program and the unfunded SPD's may require considerable revision as the program firms up." Another stated that this was a valid approach "if this detail is available in sufficient time." A third, while agreeing with the question in principle doubts that it is possible. Of the remaining SHAPM'S, comments were either not provided or were somewhat repetitive of the above statements.

Those SHAPM'S who took the opposing view were unanimous in their belief that an unstable configuration baseline precluded an

unfunded SPD being written in any great detail at such an early stage.

In response to the same question (Appendix B, question A2) 13 out of 16 of the PARM'S were in agreement with the question as posed. This agreement as clarified in their remarks, was with a theoretical principle; in practice it was almost unanimously conceded that in reality it probably could not be done. Illustrative of this was the remark by one PARM that: "However the initial requirements necessary for planning purposes will not contain the level of detail that later will be necessary. SPD's should be rewritten periodically to insure a living document." Providing even more insight was the comment, "The above statement is an ideal situation. The most serious problems have been lack of direction from higher authority in sufficient time to accomplish the intent of the above."

Those PARMS in disagreement with the question generally expressed concern over an unstable configuration baseline making precise detail impractical (seemingly in agreement with those who, at least in theory felt that precise detail was desirable if not practicable). One PARM did provide a comment which is of some interest. In his words "Scope and depth of tasks are a negotiated item totally concerned and dependent upon funding and cannot be separated from the concept of giving a ship $X worth of some product." This statement is included because in a very obtuse way it addresses what these researchers believe

is part and parcel of the unfunded SPD's raison d'etre. In the unfunded SPD the SHAPM is identifying his requirements. These include, quite naturally, items of hardware, but they also establish intangibles such as special studies, unique T & E requirements he wishes to invoke, special logistics support, and a multitude of other things. At this point he is interested in determining whether or not these requirements can be met, and at approximately what cost. Who can better provide him with this information than the PARM, and at least the preponderance of this information should not require the expenditure of SCN funds.

The entire SPD System is a negotiation process. Issues raised by the SHAPM'S are frequently taken exception to by the PARM'S. When queried as to whether or not unfunded SPD's well in advance of the program year allowed ample time for resolution of these differences (Appendix A, question A4) 5 out of 9 of the SHAPM'S agreed. As one of these SHAPM'S so succinctly stated it, "The entire SPD is intended to resolve any differences between SHAPM tasking and PARM response." If this viewpoint can be accepted, and these researchers view it as a very profound statement, then what is remarkable about this question is that 44% of the SHAPMS disagreed.

To attempt to shed light on this disagreement it is necessary to let these SHAPM'S speak for themselves. One has stated, "Exceptions must be resolved as program becomes firm. The unfunded SPD (a piece of paper) does not aid in resolving differences. Again, close

and continuing association and coordination with PARMS is the answer" (Isn't this what negotiation and resolution are all about?). Another has remarked "Question too vague. What is "Well in advance" --- 2 weeks, 2 months, 2 years?" A third SHAPM stated, "PMS --- experience with unfunded SPD's did not produce the required dialogue to arrive at mutually acceptable task agreements and relationships." The fourth SHAPM disagreed because of the instability of configuration baseline.

In response to the same question (Appendix B, question A3) 13 out of 17 of the PARMS were in agreement with the question as stated. Again, if one accepted the view that the entire SPD System is a negotiation process then it is really only germaine to address the remarks of those PARMS who were in disagreement with the question as stated. In both instances dollars were cited as the reason for taking exception. The most succinct statement of this was "until the SPD is funded not much work will be done. Technical (Engineering) support is also funded by the SPD. Tasking and reporting requirement exceptions do not arise until you actually start doing the work, except procedural items." Since this PARM has neglected to provide a definition of "procedural items" these researchers will take the liberty of proposing that it is the budget estimates, delivery schedules, and feasibility of accomplishing specific tasks which the SHAPM is so vitally interested in during the unfunded stage. The question must then be asked, "isn't that one of the prime purposes of the unfunded SPD?"

Related to the previous question SHAPM'S were polled as to whether or not the issuance and acceptance of the funded SPD would involve a lengthy review process (Appendix A, question A5). In response 7 out of 9 SHAPMS felt that it would not. Taken in context with the preceding question the relatively high degree of agreement is puzzling and unfortunately the SHAPM'S remarks shed no light on this apparent anomaly. In retrospect perhaps both questions were poorly worded and hence misunderstood.

The two dissenting SHAPM'S, in support of their answer, surfaced an issue which, unfortunately was not considered by these researchers and thus was not addressed in the questionnaire. In the words of one of these PARM'S, "The issuance and acceptance of funded SPD's remains a lengthy and time consuming process. This is due in part to equipment migration from PARM to PARM, and PARM to ICP, as well as, equipment model and price variations." In support of this statement was a remark made during an interview with a SHAPM which concerned problems that he had experienced when an item of equipment for which he had an accepted SPD was transferred to another Systems Command. The significance of his remark was not recognized by these researchers and as a result what may be a major problem area (how to stabilize the entire SPD process if the principal players are continually changing) has not been investigated.

In responding to this same question (Appendix B, question A4) 10 out of 14 of the PARM'S felt that issuance and acceptance of the funded SPD would not involve a lengthy review process. Again, because of their response to the previous question (Appendix B, question A3) this response is puzzling because of the significant percentage change between the two questions. Aside from the already admitted possibility of a poorly worded question, a possible explanation is the concern of the dissenting PARMS that it is resolution of funding disputes which present the major hurdle to any SPD acceptance.

4. Conclusions

In summary, while SHAPMS almost unanimously agreed that the unfunded SPD was unrealistic and one in which they could easily comply, the majority felt that it enabled the PARM to better support a ship project. The reason for this apparent dichotomy is resolved by the SHAPMS very valid belief that the instability of their configuration baseline makes compliance extremely difficult. The majority of PARMS shared the belief that the unfunded SPD enabled them to provide meaningful support to a SHAPM'S project.

In addressing the level of detail that should be included in the unfunded SPD, the majority of both SHAPMS agreed that: (1) the unfunded SPD injected sufficient time into the resolution of major differences to make a smooth transition into a funded document and (2) the unfunded SPD should be written in sufficient detail so that transition from an

unfunded to a funded status should only involve revisions to Parts II and III of the SPD.

In attempting to interpret the results of this portion of the survey we have concluded that the unfunded SPD is absolutely essential to the success of a ship procurement. Although amounts vary greatly from program to program, in almost all instances the dollar value of GFE line items represents a significant fraction of total ship cost in every ship acquisition. Because of the matrix concept of ship procurement this money is spent by other individuals in other Systems Commands and it is only through the SPD System that the SHAPM can exercise the authority granted him in his charter.

The acquisition of any major weapon system necessarily involves an intensive planning effort and this is particularly true of ship procurement because of the need to coordinate the efforts of so many individuals in many different commands. In the absence of the SPD process this planning would be accomplished by other means (memo, letter, telephone, etc.). What the SPD (and, in particular the unfunded SPD) brings into the picture is a formalized method of planning which, while probably not eliminating, will at least serve to minimize errors of omission.

To argue, as many SHAPM'S have, that an unfunded SPD well in advance of the Ship Program Project Year is unrealistic because of an unstable configuration baseline is to argue on one hand that planning cannot be done until ship design is firm and at the same time to argue

that an SPD (even an unfunded SPD) is static and inviolate. To accept the first argument is to imply that neither the SHAPM nor his staff is required prior to signing of a shipbuilding contract --- an opinion which few would accept. To accept the second argument is to misinterpret NAVSHIPS 7000.29B. It implicitly describes the SPD as a viable, living document which can and must be revised as a program matures --- a process which continues until the SPD is finally retired.

To state, as some PARM'S have, that tasks and funding cannot be separated and therefore the requirement for an unfunded SPD is unrealistic is to deny the existence of their own expertise. In the unfunded SPD the SHAPM is seeking answers to the questions: (1) Is this task feasible? (2) How much will it cost? (3) Can these delivery schedules be met? (4) What risks are involved in this course of action? (5) What are my alternatives? (6) What are my trade-offs? (7) What are my long leadtime items? The various Systems Commands Headquarters personnel are, or at least should be, singularly equipped to provide him with the answers, and the efforts of these experts are funded --- by that Systems Command's O & M funds. In those few instances where outside assistance is required to answer the question(s) it will go unanswered until the SHAPM provides funding, but this merely serves to highlight the need for an unfunded SPD as early as possible (and 24 months is not a firm requirement only a preferred time).

As to the level of detail of the unfunded SPD, it should be as detailed as is absolutely feasible. If it is viewed as a "living document" then changes can be expected but that does not mean that the initial document should be a piece of paper submitted solely to satisfy a requirement. Rather it should be the first step in establishing the two-way communications link which is absolutely essential in a well-managed program.

B. ISSUANCE AND ACCEPTANCE OF THE SPD

1. General

The controls imposed on the issuance and acceptance procedures for the SPD are rather rigidly defined in NAVSHIPS 7000.29B. Very briefly these controls address: (1) Acceptance of the SPD, (2) rejection of the SPD and (3) resolution of disagreements.

Commencing with the date of issuance of the SPD the PARM has 21 calendar days in which to review the SPD, accept it in its entirety, accept it with minor reservations which are specifically noted, or reject it with a letter detailing the reasons for rejection. Recognizing that the complexity of some SPD's may require additional time for review, an additional 21 calendar days may be provided but this is solely at the discretion of the SHAPM.

When PARM'S disagree on points within the SPD which both SHAPM and PARM consider minor, the PARM should sign the SPD making specific note of areas of disagreement. Resolution of these minor differences should occur within 15 days.

In those instances where a PARM must take major exception to an SPD he should return it unsigned along with a letter specifying his reasons for rejection. Even though the PARM may have rejected the SPD it is essential to the proper functioning of the SPD process that he immediately initiate those procurement and management actions which are required, but he will not be held responsible for time or cost schedules to which he has not agreed. Just as with the case of the minor exception, the SHAPM and PARM should make every effort to resolve their disagreement within 15 calendar days of rejection.

In those instances where resolution of a disagreement cannot be resolved by the SHAPM and PARM within 15 calendar days of the original rejection the SPD instruction requires that the matter be brought to the attention of a higher authority. For certain Ship Projects the next higher authority is a CNM - designated PM who exercises Ship Manager responsibilities through one or more SHAPM'S. In the case of disagreements referred to these PM's they may either direct a resolution or delegate the resolution to COMNAVSHIPS. In those cases where a CNM - designated PM does not exercise managerial control over the SHAPM the disagreement would be referred directly to COMNAVSHIPS.

Decisions made by either a CNM - designated PM or by COMNAVSHIPS are final and binding on both SHAPM and PARM unless either one files an appeal within 5 days of the decision. In these instances the matter would be referred to CNM for final resolution.

2. The 21 Day Review Period

When asked if 21 days is a sufficient length of time for the PARM to review an SPD (Appendix A, question B1) 7 out of 9 SHAPM'S felt that it was. In supporting this belief one SHAPM qualified his answer by stating: "In most cases. Several have taken longer due to their size, complexity and amount of people required to review it." We feel that this qualification is particularly apropos since many SPD's are large and complex - in one case cited by a PARM an SPD was issued which was 273 pages long. Further, the PARM will solicit the expertise of many functional codes within his SYSCOM to intelligently review, evaluate and comment on the content of an SPD. Another SHAPM has commented: "Time frame is sufficient, however many SPD's issued by PMS - have not been accepted by the PARM until well after the 21 day deadline." No other comments were provided.

Of those SHAPMS who felt that 21 days was not sufficient only one provided an amplifying remark and it was his belief that 45 days would be more realistic. This is, of course, close to the 42 days allowable if the SHAPM judiciously utilizes the 21 day extension option which he alone controls.

When PARMS were asked the same question (Appendix B, question B1) 11 out of 15 felt that the time was sufficient. One PARM who shared this belief commented: "The 21 days should be 21 working days, not calendar days, from receipt of the SPD (should be same date indicated on SPD if all are hand carried vice mailed)." This response illustrates two points. Although NAVSHIPS 7000.29B clearly specifies

21 calendar days from date of issue, our question did not and hence is a classic example of poor polling technique. Secondly, the issue of hand delivery vice mail takes on significant meaning when one considers that mail can take up to 8 days (as revealed in several of our interviews) to travel between SYSCOMS. Another PARM has stated: "Delays are not due to lack of time but lack of attention on the part of those with authority to make decisions." Any conclusions which we might reach concerning this comment would be speculative but it certainly appears highly critical of his own organization. A third PARM qualified his answer by remarking: "Only if PARM is a participating party in its (SPD) preparation." In our opinion this comment broaches certain of the issues involved in the unfunded SPD previously discussed and the requirement for standardized tasks to be addressed to in a later section. It is our belief that PARM'S should be participants in the SPD preparation and further that NAVSHIPS 7000.29B encourages this.

Those PARM'S who felt that 21 days was inadequate were generally in accord in their belief that the specification of calendar days made the requirement unrealistic. This view was best expressed by the statement: "In the first place 21 days in 7000.29B means 21 calendar days, vice workdays, from SHAPM time of signature - not necessarily receipt of the SPD by PARM. 21 actual in-house working days should be sufficient."

3. Resolution of Minor Differences

When SHAPM'S were queried as to whether or not in their experience 15 days was adequate time to resolve minor differences

(Appendix A question B2) 7 out of 8 felt that it was. None of these SHAPMS provided amplifying remarks.

When asked the same question (Appendix B, question B2) 15 out of 17 PARMS indicated that 15 days was adequate. Of these 15 only 2 PARM'S provided amplifying remarks. The first qualified his answer by stating: "There are always exceptions. What is minor to one party may be major to another." The second PARM remarked that: "This has been done in 2 days including signatures. 15 days are more than enough."

Of the 2 PARM'S whose experience indicated 15 days was insufficient only one provided a comment. His remark was: "Sometimes minor items are harder to resolve than major items."

In view of the near unanimity of both SHAPM'S and PARMS that 15 days is sufficient to resolve minor differences we began to wonder why we even considered this as a possible problem area. During our interviews this issue was repeatedly raised, however, and in one case an SPD was found to have taken several months to resolve. In the mystical world of modern physics there is a phenomena known as time dilation. Perhaps it has been at work 'twixt interviews and questionnaires.

4. Resolution of Major Exceptions

In order to gain some insight into how common of an occurrence the major exception to an SPD was SHAPM'S were polled as to the number of SPD's they had issued, and how many were originally rejected for major exceptions. Those SHAPM'S who responded to the question

were currently administering a total of 283 SPD's of which 12 were originally rejected.

When queried as to the level at which resolution occurred SHAPM'S responded by indicating that 11 of those rejected were resolved at the PARM - SHAPM/PM level and one remained unresolved. When PARM'S were asked this same question they indicated that with the exception of 1 SPD which was still unresolved and 1 which was resolved by COMNAVSHIPS all were resolved at the PARM - SHAPM/PM level. The fact that one PARM indicated that 1 SPD was resolved by COMNAVSHIPS should not necessarily be viewed as contradictory to the SHAPM'S response since not all SHAPM'S provided their statistics. We do find it particularly bothersome that an SPD exception which was resolved at the CNM level during the period we were conducting our interviews was not reported by either SHAPM or PARM.

That nearly all major exceptions are resolved at the PARM - SHAPM/PM level is not, in our opinion, surprising. During our interviews it was repeatedly brought to our attention that the requirement that the SHAPM take disagreements to higher authority if they could not be resolved in 15 days necessarily involves the SHAPM putting himself "on report." Whether or not this premise was true was addressed indirectly by asking both SHAPM'S and PARMS how long it took to resolve a major exception.

Of the 7 SHAPM'S who responded to the question of how long it takes to resolve a major exception 3 said less than 2 months, 3 said from 2 to 4 months, and 1 indicated that it took longer than 4 months. Of the 11 PARM'S who responded to the question 2 said that it took less than 2 months, 3 said it took from 2 to 4 months, and 6 indicated that it required in excess of 4 months for resolution. While it may be statistically unsound to draw any sweeping conclusion from these responses we do feel that there is enough of a correlation between the SHAPM'S and PARM'S responses to infer that many of the major exceptions require more than 2 months for resolution. This coupled with the fact that nearly all major exceptions are resolved at the PARM - SHAPM/PM level would appear to indicate an extreme reluctance on the part of SHAPMS to refer exceptions to higher authority. Further, since NAVSHIPS 7000.29B allows the PARM to refer unresolved difficulties directly to COMNAVSHIPS at any time, provided the SHAPM is first notified, would seem to indicate that they are either (1) reluctant to accept resolutions dictated by COMNAVSHIPS or (2) they are using the SHAPMS reluctance to put himself "on report" and this administrative lever to extract concessions which they might not otherwise expect. That this latter might at least be partially true is indicated by one SHAPMS statement that: "After contract award it took approximately six months to negotiate acceptable SPD's with the PARM'S since the project required less support than the PARMS thought they should provide."

The issue of referring a major exception to higher authority was also approached more directly by asking both SHAPMS and PARMS if the SHAPM should automatically report to higher authority if a SHAPM - PARM resolution cannot be achieved in 15 days. In response 6 out of 10 SHAPM'S felt that he should, whereas 13 out of 17 PARM'S felt that the SHAPM should. These responses seem completely at odds with what they have reported has occurred in the past. As presently structured the entire SPD process is a continual learning process. There is no formal training program to indoctrinate the newly-formed staffs of the various pitfalls present in the system. Perhaps the responses to this question are tacit recognition that what has transpired in the past has been wrong. If this is the case then hopefully this information will be conveyed to future Ship Project staffs.

5. Conclusions

Although the majority of both SHAPM'S and PARM'S indicated that 21 calendar days from date of issue was ample time for a PARM to review an SPD it is our feeling that it is not. This opinion is based on what we have seen, what we have been told in interviews, and is further supported by those SHAPM'S and PARM'S who expressed the minority view. Even assuming same day delivery of an SPD from SHAPM to PARM, 21 calendar days translates into, at most, 15 working days. While there exist SPD's of such simplicity that review

could be accomplished with 15 working days the majority of SPD's are of such a complex nature that it is our opinion that a thorough review of the SPD cannot be accomplished in this brief time. Even assuming an extensive SHAPM - PARM team relationship in initially negotiating the substance of an SPD there is no evidence that the issued SPD receives anything other than a very detailed examination by the PARM.

During the course of our research we were able to document the chronology of several SPD's during the issuance - acceptance phase, which lend some credence to our belief that this phase is not as rosey as both SHAPM'S and PARM'S have indicated. The following example, while perhaps an extreme case, is at least representative of what we believe is more commonplace than has been reported.

1. SPD issued 21 Sept. 197_.
2. SPD rejected and returned 17 Nov. 197_.
3. SPD returned to PARM 23 April 197_.
4. SPD conditionally accepted 14 May 197_.

Nearly 8 months from issuance to a conditional acceptance, and resolution was negotiated at the SHAPM - PARM level.

It is our opinion that the 21 calendar days for review is, in most instances, inadequate. We recognize that calendar days from issuance is necessary for the SHAPM to track the progress of his SPD's but feel that 30 days would be a more realistic period. The 21 day extension is still appropriate in some instances but it is our

opinion that the PARM should have more latitude in requesting it. Perhaps it should be automatically granted if requested, in writing, anytime prior to 15 calendar days after issuance. While this may seem a rather arbitrary cut-off date we view it as a more than ample period in which the PARM could make a detailed examination of the SPD to determine, in his view, the complexity of the issues involved in the document. Because of the flexibility this requirement would grant to the PARMS we feel that the SHAPM can and must enforce the review period (30 calendar days or, in the case of an extension, 51 calendar days). Therefore we would support a mandatory requirement that all cases of non-compliance be referred by the SHAPM to a higher authority.

In spite of the nearly unanimous view of both SHAPM'S and PARM'S that the SHAPM should automatically seek resolution, from higher authority, of issues which the SHAPM and PARM cannot resolve, their responses also indicate that they have not observed this principle in the past. While we are viewing this requirement from the rather sterile atmosphere of the academic environment we cannot attach any stigma to strict compliance with the requirement (i.e. - SHAPM putting himself on report). Protracted negotiations of exceptions are, in our opinion, self-defeating because:

1. They ultimately degenerate into a contest of wills with the actual issues becoming secondary.

2. They promote an adversarial relationship between the SHAPM and PARM which will continue throughout the life of the Ship Project - an adversarial relationship which cannot help but be detrimental to the goals of both SHAPM and PARM.

3. They re-enforce the sometimes arbitrary barriers erected by the SYSCOM charter system: barriers which the SPD process is designed to cross.

C. STANDARDIZED TASKS

1. General

Although DOD Instruction 5000.1 and various other instructions stress the importance of placing our best people in positions of project management and giving them the authority to pursue their assigned tasks in a manner which they deem best, it is recognized that some constraints must be placed on their actions. Hopefully these constraints would not be intended to restrict the initiative of our Project Managers, (PM) but rather to make their jobs easier and to inject a degree of standardization into an arena which would be a potential Pandora's box if each PM were allowed to make his own rules.

In the case of the SPD process the SHAPM endeavors to convey his goals, his aspirations, his objectives via a written document which, no matter how well written, is subject to various interpretations.

Preparation of the document is time-consuming for the SHAPM. Review of the document by the PARM is also time-consuming. Acceptance is subject to a discussion of semantics and intent and the final document may, in the end, be a product which is not really acceptable to either SHAPM or PARM.

While it is recognized that a SHAPM must have some leeway in structuring his GFE requirements to fit his particular project it is also recognized that certain tasks are subject to standardization. Thus NAVSHIPS 7000.29B requires that PARMS develop a list of standard jobs and task elements with adequate descriptions and that these lists be forwarded to NAVSHIPS code 051 for consolidation. In this way it is envisioned that some degree of uniformity can be brought to the SPD process, the mechanics of SPD preparation can be simplified, and at least part of the process can be subjected to a common language acceptable to all.

The requirement is clear and not subject to interpretation, so the questions then became: (1) Do the lists exist? and (2) are they of any value?

2. Existence of Standardized Tasks

When asked if a list of standardized tasks existed (Appendix A, question C1) 9 out of 10 SHAPM'S felt that it did not. The one SHAPM that said that it did exist qualified his answer by stating "One PARM has developed such a list." When the questionnaire was initially

prepared this nearly unanimous belief that such a list did not exist was totally unanticipated and hence SHAPM'S were further asked if they had utilized it (Appendix A, question C2) and if they found it useful (Appendix A, question C3). In view of their response to the first question it is not surprising that all answered no to both of these questions.

When asked if they had complied with the requirement (Appendix B, question C1) 4 out of 14 PARMS said that they had. All four were in the same Systems Command and so it appears that at least one PARM has made an attempt to comply with the requirement and one SHAPM has, at least, recognized their efforts even if he did not use the list. The comments of these PARM'S do provide some interesting commentary. "It is not current - even if it was, NAVSHIPS does not comply with it anyway." We are uncertain as to what was intended by this statement but the implication - seems to be that either NAVSHIPS 051 is not maintaining the file or the SHAPM'S are not utilizing it. "The requirement was satisfied but is not current now. Actually SYSCOM charter should suffice. SHAPM'S wouldn't pay attention to them either." "The NAV---/NAVSHIPS Interface Task Groups have accomplished this requirement to a degree that only minimal effort is required in most instances to resolve inadequacies." This idea is explored in greater detail in a later section but it is our impression that this particular requirement is not one with which the Interface Task Group should be concerned.

3. The Usefulness of Standardized Tasks

In response to the question of whether or not a file of standardized tasks would be beneficial (Appendix A, question C4) 6 out of 9 SHAPMS felt that it would. One of those who felt that it would qualified his answer by stating, "As long as the list was not entirely parochial to the detriment of the SHAPMS responsibility." Still another SHAPM remarked, "Standard NAVSHIPS/PARM negotiated tasks would result in across-the-board SHAPM SPD uniformity." We find this comment particularly interesting since it is indicative of a trend (uniformity) which prevails throughout the evolution of the SPD process. Each succeeding revision of the instruction has attempted to inject more and more uniformity into the process. In the areas which have been standardized thus far (Reports, standard tasks, financial accounting systems) we feel that the advantages to be gained by uniformity far outweigh the disadvantages. Thus, although uniformity necessarily restricts the initiative of the individual SHAPM it makes the SPD process itself a more viable system and one less subject to parochialism on the part of SHAPM and PARM.

Of those SHAPM'S who felt the file of standardized tasks would not be useful only one provided amplifying remarks. His remark, while not necessarily germaine to the issue being addressed does provide an interesting commentary of what one SHAPM views as the proper SHAPM-PARM relationship. "It is not the SHAPM'S task to

determine what the PARM can do and how organized; it is the SHAPM'S task to specify the support required and the PARM'S task to determine how it can best provide the required support." By requiring, as NAVSHIPS 7000.29B does, that PARM'S develop the list of standardized tasks, we feel that this SHAPM'S philosophy is being observed. Hence we see no encroachment by the SHAPM'S into arenas which are justifiably those of the PARM. We do question his implication, as we interpret his statement, that SHAPM shouldn't even care what the tasks are. This would, in essence, grant total freedom of discretion to the PARM and would inevitably defeat the entire purpose of the SPD process. We do feel, however, that this SHAPM has addressed an area which, in interviews and in their responses to the questionnaire, PARM'S have indicated is one of their major concerns. At what point in the SHAPM-PARM interface do the actions of the SHAPM impinge upon the authority and responsibility of the PARM?

When queried as to the usefulness of the file (Appendix B, question C2) 6 out of 14 PARM'S felt that it was useful. In supporting this viewpoint one PARM remarked: "It further standardizes and insures all parties understand certain basics." We are in accord with this PARM'S belief and feel that this, at least in part, is the purpose of the file. None of the other four PARM'S provided amplifying remarks.

Of those PARM'S opposed to the file one has stated: "It would be time consuming to prepare and maintain in accordance with each SHAPM'S requirements." We agree that it would be time consuming to prepare but feel that it is not intended to be maintained in accordance with individual SHAPM'S requirements. Rather it is a starting point for the SHAPM, in preparing his SPD's. He may incorporate the task as written, modify it subject to negotiation, or reject it completely and write his own requirement, again subject to negotiation. Another has commented: "SHAPM'S are either not aware of their existence or want to do things differently. If the task is standard it should be part of the command charter and unnecessary to re-iterate in the SPD." This PARM is one of those previously identified as having to some degree complied with the requirement and so is probably justified in his belief that SHAPM'S are either unaware of the file or want to do things differently. As to his latter comment that standard tasks should be part of the command's charter we feel that this is a totally unrealistic position. If incorporated into command charters the task would become so inflexible that no one could live with it. Another has stated that: "05 should develop a standard SPD which SHAPM and PARM can modify to suit particular program." Since he did not identify which command's 05 code he was referring to we assume he means NAVSHIPS. This has been done and is currently called NAVSHIPS 7000.29B. There is a standard SPD and it is modified to accommodate a particular program.

Interestingly several of the PARMS who opposed the file responded with comments such as: (1) "I didn't know it existed", (2) "I know of no such requirement" and (3) "Lacking specific info on requirement and its purpose, my immediate reaction is no." In our opinion this is indicative that at least some PARM'S are not as familiar with the SPD instruction as they should be. If it were just this one issue that were involved then their lack of knowledge of the file requirement would be a rather minor point. We must wonder, however, if there are other areas of the instruction with which they are unfamiliar.

4. Conclusions

From our survey it is obvious that for all practical purposes a file of standardized tasks does not exist. As to whether or not it would serve a useful purpose the majority of SHAPM'S felt it would whereas the majority of PARM'S felt that it would not. That the majority of SHAPM'S should share this belief is, in our opinion, indicative of the importance which they attach to the PARM'S advice and participation in the preparation of the SPD. That the majority of PARM'S oppose the file is, in our opinion, a needless sacrifice of a potentially valuable advisory role in order to avoid the vast amount of work involved in preparing the file. Perhaps this is an over-simplification and other forces are at work but with the data available to us this is the only conclusion we can draw.

Obviously preparation of a file of standard tasks would be a time consuming process but we feel that the outcome of such an endeavor to be well worth the effort. The file should not be binding but, rather, should serve as a starting point from which to structure a particular Ship Program. PARM'S would provide a valuable input into the preparation of SPD's --- an input which many have indicated they do not now have.

Standardized tasks, if well-conceived and well-prepared, would give PARM'S a greater say in the document which they ultimately must accept and comply with. Further, it should reduce the length and complexity of the SPD and minimize areas which are subject to semantic interpretation. Thus the file of standardized tasks would bring the PARM into the SPD process early, give him a negotiating position from which to start and reduce the time and effort required to review and accept the issued SPD.

As long as standardized tasks are viewed as a starting position and not a binding constraint they, in no way, impinge upon the SHAPM'S managerial discretion in structuring his program. Because of the matrix concept of project management the SHAPM has to view his PARM'S as part of his staff and seek out their advice. The file of standard tasks is but one source of information so vital to his program's success and should be viewed as such.

D. REPORTING REQUIREMENTS

1. General

SPD's are vital to assure that SHAPM requirements, performance delivering dates and costs are acceptable to both parties. Certain key operations in the SPD system require control and status reporting not only to indicate task progress, but also to identify and document a need for a task change and a basis for that change's execution. Reporting requirements for the SPD system are established in NAVSHIPS INST 7000.29B and are outlined below. An example of each report with instruction is included in Appendix D, E and F, respectively.

(1) Financial Reporting. The SPD Financial Report is maintained by the applicable PARM and copies forwarded to the cognizant SHAPM on a monthly basis. The first report is submitted to the SHAPM within 60 days after assignment to the PARM of the program's Current Direction Dollars. Subsequent reports are provided by the third working day of each month for the preceding month. After all obligating transactions have been effected for all Part II line items in the SPD, financial reporting will be reduced to an exception basis until final close-out of the SPD.

(2) Quarterly Government Furnished Material (GFM) Status Report. The SPD GFM Status Report is maintained by the applicable PARM and copies forwarded on a quarterly basis to the cognizant SHAPM. The purpose of this report is to provide detailed information

for each SPD Part III item, i. e, the Government Furnished Equipment (GFE) Delivery Schedule. It is broken down by each ship's hull number and provides information concerning the type of procurement prepared, the dockside delivery date of the item, the date of contract award for the item, the type and date of action in the sequence of acquisition which last occurred and that which is planned to occur next. The first report is submitted within 90 days after the acceptance of the SPD by the PARM. Subsequent reports are submitted by the third working day of the month following the quarter being reported.

(3) Monthly Government Furnished Material (GFM) Status Variance Report. The SPD GFM Status Variance Report is maintained by the applicable PARM and copies forwarded on a monthly basis to the cognizant SHAPM. This report is designed to provide variances and detailed information for variances on a monthly basis to the latest Quarterly GFM Status Report. In the absence of any variance a written statement that no variance has occurred is issued.

These requirements are set forth in order to maintain consistent and compatible reporting procedures. Deviation from them must be agreed upon (as outlined in NAVSHIPS INST 7000.29B) by the SHAPM and PARM concerned or by NAVSHIPS and the PARM concerned. The latter agreement between NAVSHIPS and the PARM would appear to be degrading the authority of the SHAPM, if, in fact, NAVSHIPS were to make this decision with the PARM.

At present there is disagreement among SHAPM's and PARM's over the requirements levied by NAVSHIPS INST 7000.29B. Some PARM's object to the detailed reporting requirements written into SPD's and the depth of monitoring planned by some SHAPM's. Some SHAPM's, on the other hand, feel they have the authority to require detailed reporting and the responsibility for maintaining the progress of the PARM's contributions to the Ship Acquisition Project.

2. Submission

As a result of both questionnaire and personal interviews with various SHAPM's and PARM's, it was determined all of the responding PARM's (15 out of 15) considered that the required reports, in the format and at the time intervals specified, were being submitted to the SHAPM's. On the other hand, only 2 out of 8 SHAPM's felt that these reports submitted by the PARM's were in proper format and on time. One SHAPM felt that it was "yes in some cases and no in other cases". Another SHAPM specifically addressed the reporting format by stating that "standard reporting formats are not being used by all PARM's". Although all of the PARM's queried submitted a "yes" to the question (Appendix B, question D1), it must be qualified that not all the reports sent by the PARM's are in the specified format. For example, one PARM answered "yes" stating, "The NAVORD PPG (Planned Procurement Guide) Variance Report, though not in the format specified by some SHAPM's, is providing accurate exception

reports and is acceptable to all the SHAPM's." Yet another PARM answered "yes" to the same question with a stated response of "Reports are not, however, in accordance with NAVSHIPS INST 7000.29B." Another PARM gave a "yes" answer while stating, "Those reports that _____ has agreed to are: (1) Quarterly Material Progressing and (2) Monthly Financial."

As long as this type of varied reporting exists the established goal of providing a uniform reporting system will never be reached. It is the feeling of the researchers that the reporting criteria established in NAVSHIPS INST. 7000.29B must be enforced by the various SYSCOMS or the instruction criteria be changed to meet the needs of the system. In the advent of the proposed NAVSHIPS INST. 7000.29C the Integrated Financial Management Information System (IFMIS) will hopefully eliminate the problem of varied reporting systems within the Naval Material Command. IFMIS will provide direction for a unified SYSCOM reporting system. It includes implementation of a Navy-wide Integrated Accounting System (IAS) and a Procurement Accounting and Reporting Subsystem (PARS). PARS will be the single source of SCN financial data and is scheduled to be fully operational by 1 July 1974.

The Integrated Financial Management System (IFMS) Project was established to consolidate financial management information at various summary levels, inhibit the limitation of summary reporting

of fiduciary financial information, inhibit an overlapping of current systems and to prevent proliferation of memorandum records. There are presently five independent Financial Status Reporting Systems that are in use by the Navy today for reporting SCN financial data. They are: (1) Appropriation Accounting System which includes reporting to NAVCOMPT to satisfy the mandatory external appropriation reporting requirements to Treasury and OMB, (2) NAVSHIPS Accounting System (727) which includes fund status reporting to meet NAVSHIPS and higher management information requirements, (3) NAVAIR/NAVORD Procurement Appropriation Accounting System, (4) SPD System which includes fund status reporting requirements of the SHAPM's at a lower level of detail than provided for in the NAVSHIPS Accounting System (727) and (5) DD1416 "Report of Programs" on the status of budget program values to meet management information requirements of SECNAV, OPNAV, DOD, OMB, and Congress. All of these will be incorporated into one Accounting and Reporting System (PARS).

3. Visibility

SHAPM's were queried as to the visibility of their GFE as provided them by the present reporting system. (Appendix A, Question D2). Of the eight responses received on this question, six felt that it did not provide them with adequate visibility of their GFE status. Of the two "yes" responses one SHAPM felt that the visibility was adequate from a "financial standpoint" only. In looking at those that

felt it wasn't adequate, one SHAPM believed that "monthly reporting vice quarterly reporting is required for adequate visibility of GFE (except financial reporting which is monthly)". This statement appears to overlook the monthly Variance Status Report which updates the quarterly GFM status report. Another SHAPM stated, "The reporting requirements are not in enough detail to give him adequate visibility". One SHAPM pointed out that "contract problems and risk elements are not provided by the present GFM status reports". In contrast to the instructions laid forth in NAVSHIPS INST 7000.29B, one SHAPM reported that "the system doesn't work until the ship is actually under contract". In both NAVELEX and NAVSEC the status reporting is by a "mechanized reporting system". They do not start their reporting procedures until the Lead Ship contract is let so the SHAPM must find some means to go around the system in advance of this time. This is especially true in the Patrol Frigate Program where the Land Based Test Sites (LBTS) govern the schedule. Again, additional and varied reports come forth.

4. Leeway in Reporting

Although PARM's can comply with the existing reporting requirements, many of them would prefer more leeway in submitting them. In response to the question of whether or not they would prefer more leeway in submitting required reports, (Appendix B, question D3) 8 out of 15 acknowledged that they would. Two PARM's replied that

"they would like to report on an exception basis". One PARM stated that "the instruction should have the flexibility to allow substitution of currently generated reports (by PARMS) which fit the needs of the SHAPM. One PARM indicated "_____has many established reporting systems including computerized reporting-reformating to meet the SHAPM's personal wishes is assinine". Another PARM believes that "set procedures should be established for all SHAPMS and all PARMS". The researchers agree with this theory. A variation of reporting systems, as indicated by one PARM does not constitute a viable, productive reporting system.

In asking the SHAPMS if they preferred more leeway in establishing their own reporting requirements, (Appendix A, question D3) 5 out of 9 indicated that they would. One SHAPM responded with a yes to this question and stated "to the extent that PARMS would indicate in their Financial Reports those SPD Part II Line Items for which all procurement actions have taken place and excess obligation authority may be recovered by SHAPM." Another SHAPM responded "yes" but added; "However, if SHAPM's had more leeway, the result would no doubt be reflected in a lack of standardization of reports and formats". One of the SHAPM's that responded "No" to the question allowed that the "capability exists for additional reporting but the timing (sic) must be established according to needs of the individual programs; the instruction pegs everything to ship construction award dates".

5. Overcontrol

As indicated above, it is evident that there is a varied concern over the leeway in establishing and submitting reporting requirements. The question was asked of the PARM's if the present reporting requirements in any way constitute "over-control" by the SHAPM. (Appendix B, question D2). Of those responding 9 out of 16 answered "yes". One PARM indicated that "SYSCOMS should be tasked to do a project - not how to do it. If exception reports only were required they should suffice and save dollars". Another PARM indicated "yes" stating that "some reports are in addition to standard reporting systems already in _____." Still another indicated "yes" stating that it is "largely true that _____ submits reports that were available at the time SPD was established. The Command has so far successfully resisted the submission of additional reports".

In the proposed NAVSHIPS INST. 7000.29C additional reporting requirements are levied on the PARM's. These additional reports are Government Furnished Information (GFI) Quarterly Status Reports and Government Furnished Information (GFI) Monthly Status Variance Reports. This brought up the question to both SHAPM and PARM "would additional reporting requirements constitute "over-control" of the PARM's program (Appendix A, B, question D4)? Nine out of twelve PARM's responded "yes", while 6 out of 8 SHAPM's responded "No". Of the SHAPM's responding with a "No" answer to the question,

only three expressed an opinion. One stated "it would give the SHAPM, however, a more timely capability to make decisions if changes are required". Another stated "No, if it is practical to obtain the information", while the third SHAPM felt that "reporting requirements do not constitute control". The one SHAPM that gave a remark with a "yes" answer felt that "PARM's are geared to manage the technical logistic aspects of Government controlled equipment, SHAPM's should not dictate how these functions are to be managed".

Two of the PARMs responding with a "yes" to the question of over-control felt that it would depend on the type of report. In interpreting their response, we looked upon their statement as a double implication. If the report was of a necessity then it would not be over-control, whereas it would be if it were considered to be a routine report. One PARM answering "No" felt that it would not be "over-control" if "additional data were judiciously chosen".

6. Conclusion

Although the reporting requirements are established in NAVSHIPS INST 7000.29B, our research indicates that it is evident these procedures are not being uniformly used on a command wide basis. It is apparent that each SYSCOM has its own reporting system and there is a strong resistance in changing to those reporting systems called for in the instruction. Although the advent of IFMS will hopefully give some stability to the use of the Financial Reporting System,

the other reporting requirements will apparently struggle along behind unless there is some effort made on the part of the System Commanders to effectively enforce the requirements set forth in the existing instruction.

One of the main purposes of the reporting requirements is to provide the SHAPM with adequate visibility of his GFE. It is evident from the questionnaire results that many of the SHAPMS feel this visibility isn't being provided. It is hard to distinguish whether this problem is due to the information requested by the reports or the variation of the reports by the various PARMS. In our research of the information requested by the reports, it appears to be complete and should give the SHAPM the information he would need. Any outside considerations, such as contract problems, should be provided to the SHAPM by direct liaison. We feel that the timing of the reports is adequate to meet the SHAPM's needs. The Financial Status Report is on a monthly basis and this should be sufficient. The Material Status Report is quarterly, but it is enhanced by a monthly Variance Report that is again sufficient to indicate any real or potential problem areas. While additional reporting requirements may or may not create over-control responses on the part of the PARM it would, most likely, create another undesirable need for added paper work. This is not to say that the GFI report requirements that are proposed in the up-coming NAVSHIPS INST 7000.29C are not needed however. We feel that the

requirement of breaking GFI out from GFE is a needed effort that will give the SHAPM better detail in his program and hopefully better control of his costs.

One of the areas addressed in the varied reporting efforts made by the different PARMs is that of computerized reports. This is evident as can be seen by the instituting of PARS. If all of the reports were uniformly adapted to a computerized format it would most likely solve many of the problems faced by both the SHAPMS and the PARMS. Although the initial on-set of establishing these reports would be time consuming and troublesome, these efforts would be worthwhile in the standardization of the process.

E. PART I TASKING ASSIGNMENTS

1. General

Part I of the SPD provides the management directions from the SHAPM to the PARM. It specifies objectives and requirements, assigns responsibilities, establishes current project content, configuration and schedules, directs the use of resources in addition to funds and delineates special reporting requirements. In an effort to insure that major tasks and their key elements have not been omitted from the SPD, a standard format for Part I has been established.

A sample of this format guide is contained in Appendix C to Enclosure 1 of NAVSHIPS INST 7000.29B. The SHAPM will consider each area in this format guide and include only those which he considers applicable to that SPD. Attention is directed to paragraph 7 of the format guide.

2. Level of Detail

Part I of an SPD should specify in clear terms exactly what must be performed. It should contain sufficient information to enable the PARM to scope and price the job and then allow him to determine whether stated delivery can be met. As a result of questionnaires and interviews it was determined that 9 out of 10 of the SHAPM's contacted felt that they were able to write Part I tasking assignments in sufficient detail so as to convey to the PARMs exactly what is desired to them (Appendix A, question E1). One SHAPM responding with a "No" did not feel that he was able to convey exactly what was desired of the PARM. Another SHAPM responding with a "yes" stated, "The task assignments are developed in close collaboration with the PARMS to support the SHAPMS contractual responsibilities (sic)."

In contrast, only 4 out of 14 of the PARM's contacted felt that the Part I of the SPD currently provides him with sufficient detail and clarity to enable him to adequately scope and price the impending job (Appendix B, question E1). Over half of the PARM's contacted complained that Part I's submitted by the SHAPM's lacked sufficient content, detail, and clarity. They also felt that too much time and effort was required by both parties to determine what the SHAPM wanted.

As one PARM stated, "Most SPD's, even though detailed, do not specify the exact tasks to be performed. They mostly are level of effort tasks as tasked by the SHAPM. The PARM has no real knowledge of what level he will be tasked until the SHAPM issues the specific task".

This lack of coordination between the SHAPM and the PARM not only results in inefficient utilization of manpower and dollars but it also

contributes to the problems concerned in Section B, that of non-compliance within the 21 day time frame. If a discussion phase was utilized prior to the issuance of a SPD this might help to avoid this problem, or at least reduce its magnitude. The researchers also feel that compliance with the requirements of the PARM to develop a list of standard jobs and task elements should be enforced (Discussion in Section C).

PARM's were asked if Part I of the SPD are too lengthy and whether or not they felt that they could be shortened and still retain the clarity of defined Management tasks to be performed (Appendix B, question E2). Of those responding, 12 out of 16 felt that they could be shortened. One PARM had an SPD that was 273 pages in length. Another PARM responding with a "yes" stated, "only if standard tasking is used and all parties, both SHAPM and PARM are educated down to the working levels as to the meaning of the tasks, what it encompasses, what products result, and why it costs X dollars to do. Right now they (SHAPM; Part I) not only tell you what to do, but how to do it - this is unnecessary". One PARM felt that the use of standards and specifications rather than detailed descriptions explaining how to do a job would accomplish the same purpose.

In order to fully gain an understanding of the desired tasks involved, SPD's should invoke portions of existing NAVSHIPS and other authority directives, specifications, and publications by referencing the desired portions or quote excerpts from them. The SHAPM must use caution in referencing by ensuring that the referenced material is available to the PARM. Also care must be taken to ensure that references that are not related to the performance of the required task by the

PARMS are not included. To quote NAVSHIPS INST. 7000.29B, "the SHAPM and the PARM are both required to ensure that each understands exactly what is to be performed and to determine whether desired delivery dates can be met in terms of the scope and price negotiated." Therefore, a balance should be met between the size of the SPD as a usable document and the detail entered to completely describe the SHAPM's needs so as to be understood by all.

3. Utilization of Personnel

In order to carry out their assigned tasks PARM's can either utilize their headquarters personnel or they can relegate their work to field activities or commercial firms. If the task is to be accomplished by headquarters personnel then it is not covered by SCN funds, whereas if the work is "farmed out" then it is funded by SCN funds. In response to the question of whether SHAPM's feel that PARM's utilize their headquarters personnel to the maximum extent (Appendix A, question E2), 3 out of 7 of those responding felt that they were not. One SHAPM responding with a "No" stated, "Based on experience to date, the PARMS continually cite lack of adequate headquarters manpower and therefore farm out work to their field activities or commercial contracts". The other two SHAPM's responding with "No" did not clarify their answers. This particular question was not asked of the PARM's. It is the opinion of the researchers that the PARM's do utilize their Headquarters personnel as much as their manpower allows them. Part of the problem lies, however, in the internal priorities

that the PARMs establish within their own offices. The PARM's priorities may be different from those expected by the SHAPM thus causing some of the SHAPMS work to be accomplished by an outside activity when the SHAPM feels it isn't necessary.

Although field activity or contractor effort is SCN funded while headquarters support comes from their own budget, the PARMS are becoming short on available manpower. With this deficit they have no choice other than to farm out their work. The criticism stems from the preconceived feelings of many SHAPMS that PARMS are not as sensitive to cost growth as they should be. So the PARM is caught between two surfaces; that of lack of sufficient manpower and a preconceived notion that he doesn't care how much of the SHAPM's dollar he spends.

4. Exceptions to Tasks

SHAPM's were also asked if they felt that PARMS take exception to tasks which they feel are essential to the success of their program (Appendix A, question E3). Out of nine responses, six felt that exceptions were taken sometimes, one felt frequently and two felt that exceptions were not taken at all. One of the SHAPM's that felt exceptions were taken sometimes stated, "The problem here is that SYSCOM(PARM) local implementing instructions, prepared to comply with a NAVMAT or OPNAV requirement do not agree in terms of methods and procedures". Another SHAPM indicated that exceptions

were sometimes taken to the reporting area and in the level of detail described in the Part II of the SPD.

Although it is difficult to gain an unbiased insight to this question, it does point out that there is a feeling of mistrust between the SHAPM and the PARM. With this type of working relation between the two action parties, completeness of work can then become a question.

5. PARM Assistance

As previously pointed out, Part I tasks can be lengthy and sometimes cumbersome with most of the burden placed on the PARMS. In trying to find out if the PARMS could be assisted in some way, the question was asked if there are items not currently covered in Part I that could possibly assist them in their work (Appendix B, question E3). The response was 7 out of 15 stating "yes". One PARM felt that MTBF should be included in the Part I, stating, "it's required, but left out". Although MTBF/MTTR requirements are not specifically spelled out as such in NAVSHIPS INST. 7000.29B, they are an integral part of maintainability and reliability. For this reason we feel that they do not need to be (nor should they be) specified and included in the Part I. More specifically, these areas should be addressed in an area of training within the implementation of the SPD process. While some SHAPMS do specifically state MTBF/MTTR requirements in their Part I's, it is related to some individual "cog" or item. If these requirements were specifically spelled out, the outcome, in most cases, would be in the form of additional cost to the Government.

Another PARM responding to this question indicated that the Part I needs to "define the managerial needs/organization the PARM is to develop to support the SHAPM". This is, in essence, wanting the SHAPM to tell him what to do. We feel that SPD Part I's are spelled out in sufficient detail to accomplish this task and that the PARM should be able to organize to meet these requirements.

6. Conclusions

Most of the problem areas that readily occur within the SPD process occur in the Part I tasking assignments. Many of these problems are brought about by lack of clarity in defining what the task should be, and by the SHAPM not funding for the tasks or services he requests in the Part I. Although the SHAPMS may feel they are adequately conveying their ideas to the PARM in the Part I of the SPD it is rather obvious that they are not. Otherwise there would be more agreement on the part of the PARMS. This lack of communications can cause a disconnect in the SPD process. We feel that one way to correct this situation is more advance planning and a greater degree of informal liaison between the SHAPM and the PARM early in the program. Although there is no documentation that informal liaison should occur, it is evident from discussions with various SHAPMS and PARMS that there isn't enough of it taking place. It is most difficult to write out a task and have it dealt with in the manner expected without any pre-emptive discussions.

Although there may be numerous reasons for lack of early planning, one of them might be a reluctance on the part of both parties to organize for this. Another reason might be a breakdown in communications when informal advanced planning does occur. We feel that one possible way to prevent this communication breakdown is to provide for some means of documentation for those areas discussed. While documentation, whether by a recorder or method of tape, may be cumbersome, we feel that it would allow the SHAPM to write his Part I tasks with some degree of confidence on what the PARM will or will not do.

The SHAPM must also realize that funds must be provided to include all services that may be requested in the form of a Part I item.

As stated in an earlier section of the thesis, preparation of a file of standard tasks would also be an area of major advantage in preparing the Part I tasking assignments. It would, perhaps, create uniformity and better information flow between the two offices.

F. PART II PRICING

1. General

Part II of the SPD provides task and/or item description at the level of funding, funding information and other applicable accounting data and quantities, as required for proper control of the tasks specified in Part I of the SPD. The basis for pricing of the Part II is the five year POM. There are two stages of SPD development,

"Unfunded" and "Funded" SPD's. These were discussed earlier in the thesis. As mentioned, the "Unfunded" SPD's represent the ship equipment configuration and task estimates which back up the POM submissions. They contain no authorization to expend funds and are considered to be "Planning estimates". As these funds become appropriated and apportioned to the various SHAPM's, revisions are made to portions of the SPD to direct those funds to be authorized for expenditure. This converts the SPD into a "Funded" stature, and thus the planning estimates become "Current Direction Dollars". This concept is further defined in NAVSHIPS INST 7000.29B.

While only one Part I is furnished to each PARM for all ships of a class, separate Parts II are required for each program year. The out-year Part II's are for advance planning purposes. Funds for execution of the SPD's are provided in three different ways. In the case of NAVAIR and NAVORD the funds are allocated to the PARM by a Program Funding Authorization (PFA) authorized by the SHAPM and issued by the Executive Director for Financial Management in NAVSHIPS (Ships 10). For NAVSHIPS headquarters codes, NAVELEX and equipment procurements by NAVSEC, funds are not formally transferred, but are retained by Ships 10. Funds for NAVSEC technical support are formally transferred by Ships 10 to NAVSEC on NAVCOMPT Form 140. A more detailed instruction of procedures for completing Part II of the SPD is given in NAVSHIPS INST 7000.29B.

2. Documentation of Pricing Data

One of the initial questions involved in pricing of a Part II line item is how the SHAPM initially arrives at a planning estimate. PARMS are expected to provide the SHAPM with sufficient information including citing comparative procurement documents to ensure that the SHAPM understands and agrees to cost estimates. Various PARMS were asked if this was complied with, (Appendix B, question F1). Of the 17 PARMS responding 9 said it is complied with, 3 said it was not and 5 were unaware of the requirement. Of those PARMS responding with a "yes", two said they complied when requested by the SHAPM. Two more felt that they were providing sufficient data but doubted that the particular SHAPM's felt they were. One PARM stated, "The comparative procuement documents being Purchase Requests and copies of contracts. Otherwise, cost estimates with justification are furnished, relative to unfunded SPD's". Of the three PARMS answering with a "no", two of them felt that they provided the SHAPM with sufficient procurement data, but not necessarily "comparative" data; only when requested. The other PARM felt that he had trouble getting this information himself. For the most part it is evident that the cost information the SHAPM receives is in the form of previous like item contracts or negotiations and past Purchase Requests. If this information is not readily available, then the SHAPM must rely on the estimate of the PARM.

When questioned if they felt that the SHAPM's made good use of the information sent to him (Appendix B, question F2), 9 out of 13 PARMS answered "yes". One PARM felt that since the SHAPM does not have advance funds, he cannot take advantage of cost saving procurements. Three others felt that the SHAPM sometimes follows the information too closely and does not allow any flexibility for minor changes.

3. Basis for Pricing

SHAPM's were asked if Part II's are priced in a manner so that they know precisely what they are buying and at what price (Appendix A, question F1. In response, 3 out of 9 answered "yes". One of the three responded by remarking, "Wherever possible, i.e., rendered possible by circumstances such as state of development Part II must be made definitive or else it has no meaning". In a new system development it might be difficult for a PARM to perform anything more than a best estimate on cost. Yet that cost would most likely be what the SHAPM would have to rely on, at least in the advance planning stages.

To further amplify on this, it is interesting to look at some of the remarks indicated by those SHAPM's responding with a "no" to the question. One SHAPM stated that he didn't know precisely what he was buying until "The PARM has negotiated the price". Another remarked "not until contract award". These remarks appear

reasonable and perhaps justified. Another SHAPM indicated that "NAVAIR and NAVORD items are detailed on a system basis and not to a component level. Other PARMS which are priced to a component level are acceptably precise". Yet another SHAPM qualified his response by stating, "Breakdowns on equipment and services have never been provided by the PARMS. We know what we are buying but we don't know the price of all elements - only a total price."

Although these remarks may appear to be somewhat different in their connotation, they all basically convey the same meaning. Initial price out on a piece of equipment may be only an engineering estimate or a last contract price. If component level breakdowns were provided with these figures it would most likely eliminate guess work on the part of the SHAPM and his staff in determining his item costs.

In order to gain further insight into the problem of pricing of Part II items we asked the SHAPM if he felt he was at the mercy of the PARM in negotiating his prices or if he had independent cost estimates to serve as a baseline for his negotiations (Appendix A, question F2). Out of nine responses, six said "yes", one said "no", one said "sometimes" and one doesn't negotiate. The one SHAPM responding with "no" qualified his response by stating, "The SHAPM does not have the capability of making independent estimates at the equipment line item level". In other words this SHAPM feels he is

at the mercy of the PARM in negotiating his prices. The one SHAPM who answered with a "sometimes" replied by stating, "PARM input compared to past experience and SHAPM opinion. SHAPM may have independent analyses conducted on sensitive issues". In the opinion of the researchers independent analysis on any item or issue should not be necessary, rather the PARM should justify his cost estimates in a way to alleviate any outside analysis.

Interestingly, those SHAPM replying "yes" to the question really were directing their responses to the fact that they are at the mercy of the PARMS. Some of the remarks were, "The only source of GFE cost data is the responsible PARM", "Little, if any negotiation of prices take place", "If it is a new buy, then there is a backup information. Otherwise we must rely on the PARMS estimate" and "Independent cost estimates are mostly "seat-of-the-pants" negotiation. The PARM comes down some and the Project goes up some".

Although NAVSHIPS INST 7000.29B does address, in general terms, how the SPD Part II items are to be filled out, it does not address specifically how these costs are arrived at. As seen from the above comments it appears to be fairly definite that the PARMS have nothing more than their own cost estimates or past contracts to arrive at these figures. The difficult part of this is that it is doubtful if they can provide all the information a SHAPM feels he might desire. However, if the PARMS (uniformly) provide cost estimates that break

out the various costs down to the component level, then perhaps there might be some creditability given them by the SHAPMS. This is apparently done by a few PARMS and those SHAPMS receiving this type of cost data appear, for the most part, to be satisfied with it. It should be done by all of them.

In addressing the area of Systems Engineering Costs the question was asked of the SHAPMS if they felt that those tasks normally designated a Systems Engineering function (R/M/A, Safety, ILS, etc.) are realistically priced or do they serve as a source of management reserve for the PARMS (Appendix A, Question F-3). Three out of nine SHAPMS responding considered them to be realistic, four considered them a reserve source, one felt they were not realistic and one SHAPM stated "costs for these items are not broken out." The one SHAPM that considered them not realistic qualified this by stating "not realistic due to lack of baseline". Comments by those SHAPMS that consider them to be a reserve source for the PARM include, "Prices for these items vary with the equipment complexity. Part II line items costs normally include a margin for support elements" and "It is believed that such tasks are over priced generally and are used to cover cost increases in equipment and farm out of support tasks". One SHAPM who quoted this as being realistic stated, "Not separately funded, normally a part of the PARMS Headquarters responsibility." The basic problem in this area of Part II pricing is

actually two fold. One is that many SHAPM's apparently expect the PARM to build excess or "fat" into their program and this is a logical area for that to happen. This goes back to an area mentioned earlier in this thesis; that is, SHAPMS don't trust the PARMS and vice versa. The second problem lies in the fact that these costs are generally not broken out for the SHAPM. When PARMS cost out these items they should break them out as much as possible and provide them to the SHAPM.

4. Financial Control

The level of financial control and financial control procedures are well defined in NAVSHIP INST 7000.29B. The level of financial control is the total amount of Current Direction dollars assigned to the PARM in each specific Part II of the SPD. Funds are transferred from one SPD Part II to another by the SHAPM in concern. In general, the PARM has the flexibility to fund procurement and other actions at an amount in excess of any individual SPD Part II line item as long as it is done within the guidance outlined in the instruction. When a PARM effects a procurement resulting in a cost savings he will advise the SHAPM concerned in the required financial report. If there is a cost increase that will exceed the Current Direction dollar amount assigned for any SPD Part II item, and there is an off-setting reduction possible for another item, he is supposed to process the necessary procurement document for the item for which Current Direction

dollars are being exceeded and then provide the appropriate SHAPM, within five working days, with the information and an explanation of his actions. If the cost increase is without offsetting reductions then the PARM is supposed to inform the appropriate SHAPM in writing of the potential cost-growth, certify that there is no offset, and then request the additional funds. The PARM will then wait for SHAPM's response.

In dealing with this financial control we asked the SHAPM's if, in reporting financial status of their programs, PARMS report any under run (Appendix A, Question F-4). Seven out of nine responding SHAPMS agreed that the PARM will report an under-run. One SHAPM disagreed, while one SHAPM asserted that the PARM will report it "no more or less than an over-run". One of the SHAPM's agreeing felt that the PARM will report an under-run "especially when planning amounts exceed the contract award amount". Another SHAPM agreed stating, "Since all PARM's must submit copies of their contracts to the SHAPMS, the SHAPM is aware of a cost under-run independently of whether the PARM reports it or not".

The question was then asked of the SHAPMS if they felt that PARMS will return excess funds in the event of an under-run (Appendix A, Question F-5). This question was unanimously responded to by 10 out of 10 SHAPMS with a "yes". Some of the remarks included in the responses, did however, leave room for doubt that this action was of

a spontaneous nature. One SHAPM commented, "SHAPM must take initiative and prepare the funding document in order to have the funds returned". Another SHAPM replied, "After all procurement/contracting actions of the total SPD requirements have been completed". Other comments included: Generally on close out of SPD's", "If under-run is significant", and "very, very slowly (years later)".

Although the financial control procedures for cost increases are well defined in the NAVSHIPS INST 7000.29B they do not elaborate on cost saving procedures. Once the PARM informs the SHAPM of a cost savings in accordance with the financial report, the question then becomes "What does he do with the money?". At this point the money is either set aside by the PARM for further direction by the SHAPM or the PARM can use it in accordance with the procedures outlined for cost increases with off-setting reductions. If, by some chance, these funds are not utilized then they are to be returned to the SHAPM at the end of the contract.

5. Conclusion

The SPD Part II pricing is a major concern to both PARM and SHAPM; especially the latter. PARMS are fairly well protected from exposure to cost growth in most major programs. Even though they are directly involved, it is not their money that is being spent. In addition it is usually the vendors that establish the prices on the initial items. With these in mind the PARMS tend to be not as sensitive

to cost growth as they should be. There are other items that enter into the complexity of Part II pricing. The PARMS cost estimates are only as good as his engineering estimates, his Engineering Change Proposals (ECP) his Purchase Requests, etc. In many instances he is caught in the middle and has pressure on him from both sides; the SHAPM and the Contractor. If he quotes the SHAPM a price for a piece of equipment and then gets caught in a sole source buy with an increased price, the increase directly affects the SHAPMS budget. But it also effects the PARM's position in that the SHAPM considers it the PARM's fault. Inflation also takes its toll in pricing of the Part II's. This is particularly impacting when a SHAPM has to buy one or two item buys for an individual ship (such as in the case of PF Leadship). When it comes time for the SHAPM to procure these same items for his follow ships there will obviously be a great variance between the initial and present costs of the item. This is not something the SPD process will be able to overcome, at least until we reach a stable position in our nation's economy. Also contracting with options on multi-year contracts can create an equal problem. These options require an exercise date which must be met in order to remain within costs. Any late passage of an appropriations bill will impact heavily on exercising these options; usually in an area of increased costs.

Another problem lies in the fact that, presently, some of the SYSCOMS accounting systems do not have a level of detail desired

by some SHAPMS. In other words, they are held at the system level rather than the component level. This problem primarily amounts to uniformity by the various PARMS and it should be corrected when PARS goes into effect on 1 July 1974.

As indicated by one of the PARMS, one problem in the pricing process surfaces at a later date, that is six months up to two years after a particular SPD has been negotiated. A SHAPM will sometimes want the PARM to rejustify his costs. When this happens the entire pricing process starts all over again. This costs both time and money and it shouldn't have to have been done. It gets back to the problem that "Nobody believes anyone else."

G. SHAPM PRIMACY

1. General

As noted in numerous directives, Project Managers operate on a given philosophy of complete control over the acquisition of their defined system. DOD INST 5000.1 establishes the baseline guidance for the SHAPM in his acquisition of his project. CNM and NAVSHIPS Instructions and Directives, including the SHAPM Charter, further define the guidelines in which the PM has control over his project. As stated in NAVSHIPS INST 7000.29B, "This instruction establishes a standard Ship Project Directive (SPD) System, by which all Ship Acquisition Project Managers (SHAPMS) shall specify and control their project tasks within the Naval Material Command and with those

authorities outside NAVMAT who agree to participate in the system". All of these tend toward the subject of SHAPM Primacy; does he have too much control or not enough.

2. Recognition of SHAPM Management

Although current DOD policy stresses the importance of Project Managers managing their programs, the question was asked, of both SHAPM and PARM, if the PARMS recognize and observe this principle in dealing with the SHAPM (Appendix A, B, Question G-1). In dealing with the SHAPMS, 7 out of 9 responses felt that the PARMS do recognize the importance and authority of the SHAPM in managing his program. Of these seven, three SHAPMS felt this was true for the most part, while one SHAPM felt that "They recognize the principle, but they often don't agree with it philosophically." During one interview conducted it was noted that one SYSCOM unilaterally decided that SHAPMS did not need to have copies of their contracts nor did they need to know detailed cost information. This SYSCOM also felt that if the SHAPM wanted something that the SYSCOM didn't feel they ordinarily should provide, then the SHAPM should provide additional funding. This created a two-fold problem; one of resisting the SHAPMS authority and the other that the SHAPM could never tell in advance how much work the SYSCOM would perform or how much was to be farmed out. One of the SHAPMS responding with a "no", stated "Not entirely, probably because of the large numbers of Project Managers and a

lack of clear relative priority." This, in itself, could be a problem of a larger magnitude. When one PARM deals with several SHAPMS there can be conflicts of interest. Without an assigned priority it becomes obvious that some jobs are not going to be treated as a particular SHAPM may desire. Perhaps at this point, the SHAPM may feel that the PARM is degrading his managerial authority over his project. A possible outcome of this may become indifference on the part of the PARM when he feels the pressure of the SHAPM trying to usurp his authority. Although this is merely postulation, it is quite obvious that it can occur.

In looking at the responses of the PARMS, 16 out of 17 felt they recognized and observed the importance of the SHAPM in managing his program. The one PARM that responded with a "no" to the question felt that since there are more Project Managers than just those in NAVSHIPS there is a caveat in the organization that leads to overlapping of jurisdiction within the system. Of the remaining PARM responses the general trend of answers support the hypothesis that SHAPMS tend to overmanage their PARMS. One PARM responded by stating, "I think PARMS recognize PM's authority and problems, but PARMS frequently feel SHAPM oversteps his authority and Charter so as to conflict with PARMS Charter and necessary authority". Another PARM stated, "To the best of our ability. Yet most SHAPMS tend to over manage which sometimes results in their ultimately

receiving less cooperation". One PARM felt that SHAPMS generally try to exercise more internal control over PARMS than they do over their own contractors while another felt that the SHAPM shouldn't try to dictate technical knowledge, i.e., engineering and politics must be separated.

While it is easy to empathize with the PARMS on their feelings of over management it should remain clear, that unless the PARMS accept the primacy of the SHAPM in practice the SPD system will not be completely effective. The researchers feel that the management policies of the SHAPMS should be directed to that manner which enables him to best perform his functions as a Project Manager. It is further felt that the SHAPM and his staff must have or acquire a high degree of technical expertise in order to be knowledgeable in his contact with the PARMS and the contractors. We do agree that the SHAPM should not, however, dictate technology to the PARMS unless it becomes of necessity.

A second question was asked of the SHAPMS as to whether they feel that the SPD process authoritatively defines and supports the authority, responsibility and accountability of the SHAPM (Appendix A, Question G-2). Six out of ten of the SHAPMS responded with a "yes". Of these six, only one SHAPM noted any qualifying remarks; that is, "As far as SCN funds are concerned". It is the feelings of the researchers that this should also apply to MILCON, OPN, and O&MN

funds as well (as stated in NAVSHIPS INST 7000.29B). Of the SHAPMS responding with "no", one felt that "the SPD instruction is an operational guide, not the document which defines SHAPM authority". It must be noted that the SPD is the historical documented record of negotiated agreements between the SHAPMS and the PARMS that tracks their mutual participation in the Ship Project from the initiation of the project by "Unfunded" SPD's through "Funded" SPD's to the delivery of a total ship to the active fleet. In order to provide the SHAPM with the detail to accomplish this task it must define and support the authority, responsibility, and accountability of the SHAPM. The researchers feel that this is accomplished through the SPD process and its back-up references as noted in NAVSHIPS INST 7000.29B.

PARMS were also asked the question of whether they feel that the SPD process authoritatively defines and supports the authority, responsibility and accountability of the SHAPM (Appendix B, Question G-2). Fourteen out of seventeen responded with a "yes". One of the dissenting PARMS felt that it did not allow the SHAPM sufficient authority. Another PARM who felt that it does, qualified his answer by stating, "If used properly by the SHAPM, I find there is a lack of understanding of the SPD process in most SHAPM's. NAVSHIPS needs to do a better job of managing and of education down to the lowest levels". Another PARM states, "The written procedures are generally adequate. Mutual compliance with them is another matter".

3. Conclusion

The area of SHAPM primacy is of general concern to the operation of the SPD process. Although the above comments by various PARMS address the issue raised by the question it is of our opinion that there is a broader meaning to them. It tends to point to the fact that PARMS feel they are on a something-less-than equal level with that of the SHAPM. Also since different SHAPM's operate at different management levels there is a tendency to place different requirements on the PARM's. These requirements can be over and above what the PARM's are staffed to give. As a consequence, many of the PARMS don't want the detailed supervision that the SHAPM's are applying. This creates a tendency for the PARM to be reluctant in his dealings with the SHAPM's. The researchers are in accord with the finding of the SPD Appraisal Team in that the problem is not due to a lack of published policy. It is our opinion that the SHAPM has the required authority by virtue of written directives and instructions, to force the system to operate properly. The SHAPM must have the initiative to exercise this authority or it will be lost. It is realized by these researchers that it is many times easier said than done, especially if it concludes to the fact of putting a PARM on "report" to higher authority for failure to respond. To our knowledge this has not been done in the past. Admittedly, it is unfortunate that a system should have to operate in such a manner but for response purposes it might be deemed necessary.

H. EVALUATION OF SPD INSTRUCTION

1. General

The SPD process was first implemented on 5 May 1969 by the issuance of NAVSHIP INST 7000.29. Although this instruction was, in general, a well conceived document, there was evidenced a number of deficiencies as the process continued. In order to correct these deficiencies, NAVSHIP INST 7000.29 (series) was re-evaluated and re-issued as a Bravo series on 7 April 1972. The Bravo edition contained a good many of the corrections and recommendations that were surfaced as a result of the appraisal of the SPD System. The appraisal report was conducted in 1970 by a team from NAVSHIPS Appraisal Office (Ships 01D) and was submitted to SHIPS 00 for approval.

At present there is a proposed NAVSHIPS INST 7000.29C edition in circulation to the various SYSCOMS for comment and approval. Once this Instruction is issued it will incorporate any pending recommendations made by the SPD Appraisal Team and will include the directions of NAVMAT INST 7000.14B of 30 July 1971. This NAVMAT INST is entitled "Management Within The Naval Material Command for Ship Development Acquisition/Conversion Projects Under All Appropriations" and specifically directs the implementation of NAVSHIPS directives, to conform to the policy contained within the Instruction. Additional instructions issued by the various SYSCOMS further implement the SPD system at the PARM level. For example

NAVELEX INST 7000.15, NAVORD INST 4265.2A, and NAVSEC INST 5430.6 all deal with the implementation of the SPD process within the respective Commands.

2. NAVSHIP Authority

As a result of interviews with the various working levels within the SYSCOMS the question of authority of one SYSCOM over another was broached. NAVSHIPS INST 7000.29B in effect is one SYSCOM directing another. In responding to the question of whether or not it would be more authoritative if it were issued in its present form as a NAVMAT INSTRUCTION (Appendix A, Question H-8), 8 out of 10 SHAPMS felt that it would not. One SHAPM responded with a "no" by stating, "Each SYSCOM has a charter which gives it authority in certain areas. NAVSHIPS has authority over total ship integration". This authority is granted by NAVMAT INST 5460.2 of 20 August 1969 and is further implemented by NAVMAT INST 7000.14B. Two more SHAPM's also felt that NAVSHIPS INST 7000.29B implements CNM authority based on NAVMAT INST 7000.14B. Another SHAPM disagreed with the question and stated "SHAPM's do not need another level to become intimately involved in coordination of SHAPM effort", while yet another felt that there was no authority for ship acquisition clearly established in NAVSHIPS. The two SHAPMS who agreed with the question did not comment on it.

This same question (Appendix B, Question H-3) was asked of the PARMS and only 7 out of 16 disagreed with it. Of the PARM's that

disagreed with the question, two of them felt that it should be a joint instruction signed by all SYSCOMS. Another PARM felt that as long as it is a mutually agreeable document it doesn't make much difference who issues it; the present system keeps the disagreement in the open where it will get resolved. Yet another PARM responded by stating "NAVSHIPS is the responsible command for overall ship building and as such should issue its own policy and directives in accomplishing its mission". One PARM felt that it isn't material who signs the instruction as long as he has the authority and concurrence from the necessary level of authority to do so. Other reasons given for disagreement were: "would make it just another bureaucratic bundle" and "need more than CNM signature" to make the system operate smoothly.

Of those PARM's agreeing with the question, two of them felt that the SHAPM should also be located at the NAVMAT level while another stated that it "should either be a CNM instruction or a Joint SYSCOM Instruction with all parties signing it".

3. Conclusions

Although the reasons given by both the SHAPM's and the PARM's are primarily personal feelings toward the present system they do address the issue of uncertainty in the SPD process. It also points out the need for a uniform implementation of the process which would be amenable by those concerned with its operation. At present

it is evident that this may be one of the reasons the SPD process does not have the complete cooperation needed between the various SYSCOMS and the SHAPM's and PARM's. Although a NAVMAT INST would surely raise the level of authority in the implementation process, the researchers feel that the authority is already present by the way in which the system operates, i.e., the chain of command and the NAVMAT implementing instructions directed toward the SPD process. This does not, however, subside or alleviate the personal conflicts involved. It is of our opinion that a joint instruction, agreed upon by all SYSCOMS concerned, would have a more meaningful purpose and direction than the present way of one SYSCOM directing another. A joint instruction would most likely surface the issues of disagreement within the present instruction and hopefully establish an area of agreement.

VI. CONCLUSIONS AND RECOMMENDATIONS

A. GENERAL

If the Ship Acquisition Project Manager (SHAPM) is to have the authority and responsibility necessary to successfully manage his program it is absolutely essential that he have a contractual agreement with the supporting or participating managers (PARMS) who procure his Government Furnished Equipment (GFE). The Ship Project Directive (SPD) provides him with that agreement and if viewed by both SHAPM and PARM as a contract, it can serve as an effective means of minimizing the occurrences of late delivery of GFE and delivery of defective GFE which characterized most ship projects during the 1960's.

Besides its contractual aspects, the SPD should also be viewed as a vital communications channel between SHAPM and PARM. Supported by the required reports and by informal dialogue, the SPD provides the means for an exchange of information and ideas so vital to the success of a ship project.

The SPD process has made significant contributions toward enhancing the SHAPMS authority and in making him something other than a manager in name only. At the same time it has its imperfections, many of which we have addressed. In addition to the specific recommendations which follow we believe that it is imperative that the

effectiveness of the SPD process be periodically evaluated by high level officials within the NAVAL MATERIAL COMMAND (NMC), and its components, to ensure that it is operating as intended. Only in this way can the viability of what we consider an absolutely essential system be guaranteed.

B. SPECIFICS

1. The next revision of the SPD instruction should be issued as a joint instruction.

In our view the entire SPD process has been conceived as a bridge to transverse the sometimes artificial barriers erected by the SYSCOM charters. While it has succeeded, to some degree, in achieving this objective, it is questionable, in our minds, whether a NAVSHIPS Instruction will ever fully eliminate these barriers.

Initially, this problem was addressed with the thought in mind that perhaps a NAVMAT Instruction should replace NAVSHIPS 7000.29B. This has been rejected because the level of detail required in the SPD instruction can only be effectively established at the SYSCOM level. Additionally, the areas of contention which presently characterize the SPD process will not be resolved by a NAVMAT Instruction. Only negotiation between the parties concerned will result in a meaningful resolution.

By thoroughly and intelligently negotiating a joint instruction, the resulting document should reflect the views and interests of each

of the SYSCOMS and therefore strict compliance would be within the bounds imposed by the SYSCOM charters.

2. The training programs originally recommended by the NAVSHIPS Appraisal Report (Ref. 1) should be implemented immediately in both NAVSHIPS and in the other SYSCOMS.

Perhaps the only common thread binding our returned questionnaires into an entity was the fact that, in varying degrees, both SHAPMS and PARMS were unfamiliar with the complete SPD process. We have found no evidence that training of any sort exists and can only conclude that each newly-formed ship project and each new PARM is allowed to fend for itself in the SPD environment. In view of the dollars involved in the various GFE transactions this appears to us to be an unrealistic way of doing business.

3. NAVSHIPS Instruction 7000.29B should be revised to require preparation of unfunded SPD's when the ship configurations becomes reasonably stable.

To link the "preferred" time for issuance of the unfunded SPD to an arbitrary calendar date (say 24 months prior to the Ship Program Project Year) is to deny the fluidity which exists in most ship projects during the conceptual phase. In most instances the SHAPM and his staff are singularly ill-equipped to cope with the required changes to his SPD's which inevitably would be required if the SPD's are issued too early.

While this recommendation grants the SHAPM wide latitutde in determining when is the proper time for issuance of unfunded SPD's we do not feel that the SHAPM should deny himself the expertise which the PARM can provide. Therefore, in conjunction with this recommendation we would also levy the following requirement.

4. NAVSHIPS Instruction 7000.29B should be revised to require that SHAPM's submit, in advance of his unfunded SPD's, the applicable portions of his current configuration baseline to the appropriate PARM's. Further, this requirement should be supported by the additional requirement that PARM's review and respond to these baselines in a specified period of time.

The PARM can and should be an integral part of the SHAPM's advisory team. He should be brought into the picture as early as possible and this is inherently recognized in the current requirement for early submission of unfunded SPD's. While we cannot question the intent of this requirement, we do question the means and in this we are nearly unanimously supported by the SHAPMS currently chartered.

5. The unfunded SPD, when issued should be written in sufficient detail so that only a revision to Parts II and III would normally be required to transform the unfunded SPD into a funded document.

While we recognize that configuration changes will occur, no matter how judicious the SHAPM is in deciding when is the proper time

to issue his unfunded SPD's, we cannot envision many instances where these changes would necessitate extensive revision of Part I of the SPD.

6. NAVSHIPS Instruction 7000.29B should be revised so as to allow the PARM 30 calendar days from date of issue to review the SPD.

Although the majority of both SHAPMS and PARMS indicate that the current 21-day review period is adequate, their supporting remarks, the remarks of those SHAPMS and PARMS who felt that it was an inadequate time, and our own personal observation indicate that the current time for review is insufficient. We believe that 30 calendar days to be a more realistic time frame for review of most SPD's and, coupled with the present 21 day extension should establish an ample time frame in which to review all SPD's regardless of complexity.

7. NAVSHIPS Instruction 7000.29B should be revised to permit an automatic 21 day extension to the PARM review period provided the PARM requests, in writing, such an extension within 15 calendar days of the date of issue of the SPD.

The current instructions concerning the extension are vague but the implication appears to us to be that the extension is solely at the discretion of the SHAPM. Only the PARM can realistically evaluate the complexity of a particular SPD and project how long it

will require to review it. We feel that the PARM should be able to adequately evaluate the SPD and make a determination of a need for extension within 15 calendar days of the date of issue of the SPD. It is not our intention, however, to make the 15 day mark a go-no-go cut-off date. If, after the 15 day period has elapsed and the PARM determines a need for extension, then he should be able to request the extension in writing as before. This extension should not be automatic, however, but should be at the discretion of the SHAPM concerned. Thus he should have more latitude in requesting the extension than is now implied by NAVSHIPS Instruction 7000.29B.

8. NAVSHIPS Instruction 7000.29B should be revised to require that SHAPM's report any non-compliance with the review period immediately to higher authority.

While we can appreciate the reluctance of SHAPMS to seek the aid of higher authority in enforcing the requirements of the SPD instruction, we do feel that the precedent needs to be established. The immediate result might be to re-enforce the SHAPM-PARM adversarial relationship but in the long run it will, we believe, contribute to the viability of the SPD process.

9. NAVSHIPS Instruction 7000.29B should be revised so as to allow SHAPM and PARM 30 calendar days to resolve both major and minor differences prior to referring to higher authority.

From past history the current 15 calendar day resolution period is totally inadequate. While 30 days may seem a rather

arbitrary extension we believe it would be sufficient time to resolve most differences. Both SHAPM and PARM should, of course, be encouraged to resolve differences sooner but this is an educational process rather than something which can be issued as a mandate in the SPD instruction.

10. NAVSHIPS Instruction 7000.29B should be revised to require the SHAPM to report, at the conclusion of the 30-day resolution period, the status of SHAPM-PARM negotiations and of the differences.

We oppose the view that the SHAPM should automatically refer incomplete negotiations of differences to higher authority for resolution. We can foresee instances where SHAPM and PARM would be near agreement at the conclusion of the resolution period. To refer the matter at that point to a higher authority could undo their negotiation efforts and have a detrimental effect on their future relationship. On the other hand to ignore the referral requirement as it is presently written would be a degradation of the entire SPD process; a small degradation, perhaps, but a succession of these small occurrences could eventually subvert the entire SPD system.

11. NAVSHIPS Instruction 7000.29B should be revised to require that PARMS shall vice should prepare a list of standardized tasks and and task descriptions.

While we can sympathize with one PARMS' belief that this would be too time-consuming, we believe that the effort expended would prove

invaluable. As it is our opinion that the SHAPM and the PARM should be brought together at a very early stage in the SPD process (as discussed in paragraph 14 of this section), we view this effort of standardized tasks and task descriptions as a method to provide the SHAPM/PARM interface with some degree of continuity and hopefully a means of establishing early visibility and discussions in the process.

We do not feel that the file should act as a binding constraint on the SHAPM but rather should act as a starting point for structuring his particular program. Any deviation from a standard task should, of course, only be made after discussing with the PARM the feasibility of doing so.

12. NAVSHIPS Instruction 7000.29B should be revised so that it requires PARMS to be uniform in their submission of required reports to the SHAPM.

Our research concluded that the PARMS presently adapt their reporting format to that format already established within their parent command and not to the format required by NAVSHIPS Instruction 7000.29B. Therefore when SHAPMS receive these reports from the various PARMS the report structure is not the same. This can tend to be not only confusing and misleading but can also cause oversight in areas of importance. If provisions were made so that a NAVMAT command-wide computerized reporting system could be adopted for these required reports it would establish uniformity and provide an

effective and efficient means of minimizing confusion and of standardizing the reporting process.

13. Provide for additional reporting requirements for Government Furnished Information as proposed by (proposed) NAVSHIPS Instruction 7000.29C.

Government Furnished Information (GFI) consists of recorded scientific, technical or management information, in various forms which the government is obligated by statute, legal precedent, regulation or contract to furnish prospective bidders, contractors and participating managers. The present system does not provide for the integration of this information. Lack of adequate GFI has been a contributing factor to a marked increase in cost growth and delays in deliveries of ships, systems and equipments to the Navy. This is especially true in new ship construction. GFI or information required for its use can be functional throughout the ships life cycle for such purposes as maintenance support documentation, preparation of operating instruction, configuration status accounting, provisioning and repurchasing. It is therefore important that the SHAPM be able to track the necessary GFI required for his program in order to minimize redundant procurements of GFI and yet assure its availability when required.

14. Provide for a greater degree of informal liaison between the SHAPM and the PARM prior to the writing of an SPD Part I.

One of the most important, and yet most difficult, areas in writing an SPD is that of the Part I, management direction. It is difficult in that defining exactly what is needed and what can be accomplished are sometimes two different items. While it is encumbent upon the SHAPM to ensure that the PARM clearly understands the tasking assignment, it is necessary that they also be of sufficient detail to support his requirements. The major area of concern herein lies in the fact that too often unnecessary time and effort is expended by both parties in the determination of what the SHAPM has requested in the guise of his management direction.

We feel that one method of overcoming this hinderance is by a greater degree of informal liaison or advanced planning by both the SHAPM and the PARM. While we are aware that this does occur to an extent it should be done on a wider basis. More importantly, when advanced planning does occur, there should be some means of documenting what transcribed between the two parties. Our primary concern for this is so that nothing will be lost between the planning and actual writing of the SPD.

APPENDIX A

SHIP PROJECT DIRECTIVE QUESTIONNAIRE

FOR SHAPM RESPONSE ONLY

A. The following questions are concerned with the requirement for unfunded SPD's 24 months prior to the Ship Project Program Year.

1. This is a realistic requirement and one in which my staff and myself can easily comply.

Agree 1 Disagree 8
Remarks:

2. Unfunded SPD's for "planning purposes" serve a useful purpose in that they enable the PARMs to better support me in preparing my Acquisition Plan, Budget Submissions, and the solicitation for ship construction.

Agree 5 Disagree 5

3. An unfunded SPD should be written in sufficient detail so that only a revision to Parts II and III is necessary to make the SPD a viable, funded document.

Agree 7 Disagree 3
Remarks:

4. By utilizing unfunded SPD's well in advance of the program year, ample time is available to resolve any exceptions which PARMS might take to Part I tasking and reporting requirements.

Agree 5 Disagree 4
Remarks:

5. Thus the issuance and acceptance of the funded SPD would not involve a lengthy review process.

Agree 7 Disagree 2
Remarks:

B. The following questions are concerned with the SPD issuance and acceptance procedures established by NAVSHIPD Inst. 7000.29B.

1. From my experience 21 days is adequate time for the PARM to either accept the SPD or state in writing his reasons for rejection.

Agree 7 Disagree 2
Remarks:

2. From my own experience minor differences can generally be resolved within 15 days.

Agree 7 Disagree 1
Remarks:

3. My office has issued _____ SPDS and of these _____ were originally rejected for major exceptions.

4. In those cases where a written rejection was received _____ were resolved at the PARM - SHAPM/PM level, _____ were resolved by COMNAVSHIPS, and _____ were resolved at the CNM level.

5. The average time to resolve a major exception was:
   less than 2 months _____
   2-4 months _____
   more than 4 months _____

6. If there is disagreement on an SPD, there is a critical time period for the need of the GFE, the PARM should not let a "piece of paper" (SPD) hold him up from starting his work on procuring the GFE.

YES 7 NO 3
Remarks:

7. If the 21 day acceptance/rejection period can not be complied with and both SHAPM and PARM cannot work out a resolution within the required 15 days after rejection, the SHAPM/PM should automatically go to higher authority for resolution.

YES 6 NO 4
Remarks:

C. The following questions are concerned with the requirement that PARMS develop a list of standard jobs and task elements with adequate descriptions which should be maintained on file with NAVSHIPS 051.

1. To your knowledge has this been accomplished?

YES 1 NO 9
Remarks:

2. Have you had occasion to utilize it?

YES 0 NO 7
Remarks:

3. If you have utilized this file did you find it useful in preparing your SPD's?

YES 0 NO 4
Remarks:

4. If the file were complete would it be useful?

YES 6 NO 2
Remarks:

D. The following questions are concerned with the standardized reporting requirements in 7000.29B.

1. Are the required reports, in the format and at the time intervals specified, currently being submitted?

YES 3 NO 7
Remarks:

2. Does the present reporting system provide you with adequate visibility of your GFE?

YES 2 NO 6
Remarks:

3. Would you prefer to have more leeway in establishing your own reporting requirements?

YES 5 NO 4
Remarks:

4. In your opinion would additional reporting requirement in any way constitute "over-control" of the PARM's program?

YES 2 NO 6

Remarks:

E. The following questions are concerned with the tasking assignments normally contained in Part I.

1. Do you feel that you are able to write tasking assignments in sufficient detail so as to convey to the PARMS exactly what is desired of them?

YES 9 NO 1

Remarks:

2. Do you feel that PARMS are utilizing their Headquarters personnel to the maximum extent possible in accomplishing assigned tasks?

YES 4 NO 3

Remarks:

3. Do you feel that PARMS take exception to tasks which you feel are essential to the success of your program:

Sometimes 6
Frequently 1
Most of the time 0

Remarks:

F. The following questions are concerned with pricing of Part II of the SPD.

1. Are Part II's priced in a manner so that you know precisely what you are buying and at what price?

YES 3 NO 6
Remarks:

2. In negotiating prices are you at the mercy of the PARMS or do you have independent cost estimates to serve as a baseline for negotiation?

YES 6 NO 1
Remarks:

3. Do you feel that those tasks normally designated a Systems Engineering function (i.e. R/M/A, ILS, Safety, etc.) are realistically priced or serve as a source of management reserve?

Realistic 3

Reserve Source 4
Remarks:
1 - Not realistic

4. In reporting financial status of their programs PARMS will report an under-run.

AGREE 7 DISAGREE 1
Remarks:

5. Do you feel that PARMS will return excess funds in the event of an under-run?

YES 10 NO 0
Remarks:

6. Do you feel that PARMS "pad" their price estimates?

YES 5 NO 4
Remarks:

G. The following questions concern the issue of SHAPM primacy.

1. Current DOD policy stresses the importance of Project Managers managing their programs. Do you feel that PARMS recognize and observe this principle in their dealings with you?

YES 7 NO 2
Remarks:

2. Do you feel that the SPD process authoritatively defines and supports the authority, responsibility and accountability of the SHAPM?

YES 6 NO 4
Remarks:

H. The following questions are of a general nature and relate to the mechanics of the SPD process as they relate to your program.

1. How many SPD's are you currently administering? _____

2. How many persons on your staff are currently engaged in writing/administering SPD's? _____

3. For your program how many people should you have to write/administer SPD's in the most efficient manner? _____

4. If you had the option of staffing your office so that you could procure a total ship system would you prefer this to the present system of utilizing the functional support of the various SYSCOMS?

YES 3 NO 7
Remarks:

5. If you had to staff your office for a total ship procurement, how many people do you feel that this would require? _____
How many people are currently assigned to your staff? _____

6. Do you feel that the NAVSHIPS/NAVORD/NAVELEX Interface Management Task Force serves a useful function?

YES 5 NO 3
Remarks:

7. Do you feel that this task force resolves interface problems or merely delays them?

Resolves 6 Delays 1
Remarks:
1 - Neither

8. NAVSHIPSINST. 7000.29B in effect is one SYSCOM directing another. It would be more authoritative if it were issued in its present form as a CNM Instruction.

AGREE 2 DISAGREE 8
Remarks:

9. The SPD process is an attempt to solve with paper what is basically an organizational and command problem.

AGREE 4 DISAGREE 6
Remarks:

APPENDIX B

SHIP PROJECT DIRECTIVE QUESTIONNAIRE

FOR PARM RESPONSE ONLY

A. The following questions are concerned with the requirement for unfunded SPD's 24 months prior to the Ship Project Program Year.

1. Unfunded SPD's for "planning purposes" serve a useful purpose in that they enable the PARMs to better support the SHAPM in preparing his Acquisition Plan, Budget Submissions, and the solicitation for ship construction.

AGREE 15 DISAGREE 2
Remarks:

2. An unfunded SPD should be written in sufficient detail so that only a revision to Parts II and III is necessary to make the SPD a viable, funded document.

AGREE 13 DISAGREE 3
Remarks:

3. By utilizing unfunded SPD's well in advance of the program year ample time is available to resolve any exceptions which PARMS might take to Part I tasking and reporting requirements.

AGREE 14 DISAGREE 3
Remarks:

4. Thus the issuance and acceptance of the funded SPD would not involve a lengthy review process.

AGREE 11 DISAGREE 4
Remarks:

B. The following questions are concerned with the SPD issuance and acceptance procedures established by NAVSHIPSINST 7000.29B.

1. From my experience 21 days is adequate time for the PARM to either accept the SPD or state in writing his reasons for rejection.

   AGREE 11 DISAGREE 5
   Remarks:

2. From my own experience minor differences can generally be resolved within 15 days.

   AGREE 15 DISAGREE 2
   Remarks:

3. In those cases where a written rejection was received, _____ were resolved at the PARM-SHAPM/PM level, _____ were resolved by COMNAVSHIPS, and _____ were resolved by COMNAVSHIPS, and _____ were resolved at the CNM level.

4. The average time to resolve a major exception was:

   less than 2 months 2
   2 - 4 months 3
   more than 4 months 6

5. If there is disagreement on an SPD, and there is a critical time period for the need of the GFE, the PARM should not let a "piece of paper" (SPD) hold him up from starting his work on procuring that GFE.

   YES 8 NO 4
   Remarks:

6. If the 21 day acceptance/rejection period can not be complied with and both SHAPM and PARM cannot work out a resolution within the required 15 days after rejection, the SHAPM/PM should automatically go to higher authority for resolution.

   YES 13 NO 3
   Remarks:
   1 - Perhaps

C. The following questions are concerned with the requirement that PARMS develop a list of standard jobs and task elements with adequate descriptions which should be maintained on file with NAVSHIPS 051.

1. Have you complied with this requirement?

YES 4 NO 10
Remarks:

2. Do you feel it is a necessary and useful requirement?

YES 6 NO 8
Remarks:

D. The following questions concern area of reporting requirements by PARMS.

1. Are the required reports, in the format and at the time intervals specified, currently being submitted?

YES 15 NO 1
Remarks:

2. Do present reporting requirements in any way constitute "over-control" by the SHAPM?

YES 10 NO 7
Remarks:

3. Would you prefer to have more leeway in submitting required reports?

YES 9 NO 7
Remarks:

4. Would additional reporting requirements constitute "over-control"?

YES 10 NO 3
Remarks:

E. The following questions concern the area of PART I tasking assignments.

1. PART I of the SPD currently provides the PARM with sufficient detail and clarity to enable him to adequately scope and price the impending job.

YES 4 NO 10
Remarks:

2. PART I of the SPD are too lengthy and can, in most cases, be shortened and still retain the clarity of defined Management Tasks to be performed.

YES 12 NO 4
Remarks:

3. Are there any other items not currently covered in PART I that would assist you in doing your work?

YES 7 NO 9
Remarks:

F. The following questions are concerned with pricing of PART II of SPD.

1. PARMS are expected to provide the SHAPM with sufficient information including citing comparative procurement documents to ensure that the SHAPM understands and agrees to cost estimate(s). Is this complied with?

YES 10 NO 3
Remarks:

2. Do you feel that SHAPM makes good use of this information?

YES 9 NO 4
Remarks:

G. The following questions concern the issue of SHAPM primacy.

1. Current DOD policy stresses the importance of Project Managers managing their programs. As a PARM do you recognize and observe this principle in your dealings with SHAPM?

YES 17 NO 1
Remarks:

2. Do you feel that the SPD process authoritatively defines and supports the authority, responsibility and accountability of the SHAPM?

YES 15 NO 3
Remarks:

H. The following questions are of a general nature and relate to the mechanics of the SPD process as they relate to your program.

1. Do you feel that the NAVSHIPS/NAVORD/NAVELEX Interface Management Task Force serves a useful function.

YES 11 NO 4
Remarks:

2. Do you feel that this task force resolves interface problems or merely delays them?

RESOLVES 10 DELAYS 2
Remarks:

3. NAVSHIPS INST 7000.29B, in effect, is one SYSCOM directing another. It would be more authoritative if it were issued in its present form as a CNM Instruction.

AGREE 9 DISAGREE 8
Remarks:

4. The SPD process is an attempt to solve with paper what is basically an organizational and command problem.

AGREE 8 DISAGREE 10
Remarks:

APPENDIX C

BODY OF PART I - FORMAT GUIDE

Reference: (a)
(b)

1. Information:

Background and basis for issue of Ship Project Directive, should include definition of total ship program.

2. Action:

a. Management

(1) Configuration Management

The Project's policy on changes to GFE should be expressed. In addition, the PARM's participation in controlling the configuration of contractor furnished equipment under his technical cognizance should be spelled out explicitly or by invoking some other document.

(2) Data Management

Define the PARM's participation in the establishment of data requirements, and in the acquisition, collection, distribution, filing, retrieval, and updating of data for the ship class.

(3) Security

Invoke the security guidance covering the particular ship design.

Require the PARM to provide guidance on classification of equipment and subsystems for which he is responsible.

(4) Cost and Schedule Management

If any requirements beyond normal Quarterly Production Progress Conference (QPPC) routine progress reporting and standard controls are to be employed, these should be spelled out.

(5) Software appraisal

PARM review of TDP's, PMP's, contract proposals, and other across-the-board software not tied to particular discipline or subsystems should be spelled out here.

(6) Delegation of Authority to the PARM by the SHAPM

It may be desirable to require the PARM to act for the SHAPM. For example, it is possible to delegate to him approval authority for some technical documentation provided by the shipbuilder. The extent of the delegation and the means through which it is to be exercised, should be spelled out here.

(7) Required Membership on Committees, Boards, etc.

In addition to the SHAPM Project Change Control Board, the SHAPM may establish other committees and teams requiring PARM representation. Any such committee type actions should be listed here, although details on how they function may be handled in other portions of the SPD.

b. Ship System Engineering

(1) Whole Ship Studies

The scope of support by the PARMS must be spelled out for each ship project.

(2) Ship Systems Integration

The contribution of the PARM should be stated, and any constraints which he must comply with must be invoked. For example, if the integration of the combat system is to be done in accordance with some plan which sets physical parameters, casualty philosophy, and so forth, that plan must be invoked.

(3) Ship Systems Safety Engineering

PARM support required to review ship designs for safety aspects should be defined and applicable sections of MIL-STD-882 should be utilized as a guide.

(4) Quality Assurance

The QA requirements should be placed here. The level of essentiality of the equipment should be invoked here, by reference, if desired.

(5) System Test and Evaluation

Documentation which the PARM is required to provide as an input to the formal ship test program should be defined. His personnel support in this area should also be laid out.

(6) Installation and Check-out

The extent of documentation and personnel support to be provided for installation and check-out of equipment and subsystems should be spelled out. This is particularly important in the case of complex systems such as missile systems, where a special team may be put together to check-out a system comprised of equipment furnished by several Systems Commanders.

(7) Design Work Study in Shipbuilding

Place a requirement on the PARM to establish the manning requirements for the hardware system or equipment he is responsible for (or the ship design in the case of NAVSEC), together with the supporting documentation showing how the operational and maintenance requirements were arrived at.

(8) Human Engineering

The extent of human engineering to be carried out should be described. For example, a system which requires a very rapid response, like a threat-reactive missile control, may require an end-to-end human engineering study to insure that human time lag and error do not subvert its intent. What support is expected of the PARM in such a study should be spelled out.

(9) Risk Management

The SHAPM is required to identify risks and to have a Risk Management Plan to control them. The actions which he requires of a PARM to assist in preparation of details and execution of the Risk Management Plan should be spelled out here. For example, if a special analysis by the PARM is required to permit a decision as to whether some risk item will be used or a fall back will be employed, the analysis should be called out here.

(10) Engineering Interface Standards for Shipboard Systems and other Constraints

The interface requirements and constraints to be invoked for a system to be installed aboard ship should be defined to the PARM. Existing Engineering Interface Standards should be invoked here.

c. Equipment Engineering/Production Standardization

(1) Component/Equipment Standardization-state or reference the standardization objectives of the project; for example, all equipments of all ships of the class identical; all computers employed to be AN/UYK-7; not over 10% of equipments to have new CID numbers; and so forth.

Provide guidance to the PARM on the steps to be taken to insure that out-year ships will have equipment identical with current year ships, and specifically cover the issues of multi-year equipment procurement, standardization D&F's, options and advance procurement.

(2) Reliability Engineering

Advise the PARM what his reliability engineering requirements are and under what conditions they are to be achieved. This will probably have to be done by invoking the appropriate reliability engineering military standard, instruction, etc.

(3) Maintainability Engineering

Any special maintainability requirements to be met by the equipment should be called out here.

The provision of MEAR's for use in the ILS project will be covered under the heading of Integrated Logistic Support (paragraph d. below).

(4) Signature Engineering

Any special requirements on equipment silencing, magnetic signature, or electromagnetic radiation signature should be called out here.

(5) Equipment Safety Engineering

PARM support required to review equipment for safety aspects should be defined.

(6) Engineering Interface Standards for Equipment and other Technical Constraints

Place a requirement on the PARM to invoke Engineering Interface Standards in the procurement specifications for new equipment.

(7) Specific Actions to be taken by the PARM on Contractor Furnished Equipment Under his Technical Cognizance

In some cases, the shipbuilder is developing equipment which would normally be provided as GFE. In such cases, assistance should be obtained from the cognizant NMC PARM to insure that it is properly developed, and where appropriate, service approved.

(8) Equipment Installation and Check-out

Documentation and assistance to be provided for installation and check-out of GFE should be spelled out here.

d. Integrated Logistic Support

PARM support required to formulate the Ship Project Integrated Logistic Support Plan should be defined. Application of Logistics Support Analysis techniques (NAVMATINST 4000.20, current version) in hardware acquisition and the extent of the application of ILS by the PARM should be described.

e. Special Government Furnished Information (GFI) Requirements

NAVSEC may be required to develop a list of GFI, obtain concurrence that it is adequate from the cognizant SUPSHIP, schedule it, obtain it, and deliver it. This covers not only GFI furnished with hardware but other GFI where required. (Note: Where GFI is to be delivered separately and will be so cited in a Ship Contract schedule, it will be listed in Part III, Section B.)

3. Schedule

Pertinent dates (Note: GFM dockside or equivalent delivery dates will be shown in Part III.)

4. Shipping Instructions

As appropriate

5. Special Instructions

As appropriate

6. Reports

Specify required reports

7. Format Guide Statement

In preparing this Part I, the SHAPM has reviewed and considered each area of the Format Guide for applicability. Therefore, any area not cited above is considered not applicable to this SPD.

APPENDIX D

FINANCIAL REPORTING

Format

The SPD Financial Report (Appendix A) will be maintained by PARMs and copies forwarded monthly to the cognizant SHAPM; the first report to be submitted within 60 days after assignment of Current Direction dollars. This report will be by each ship hull number covered by the SPD Part II and will provide detailed information for each Part II item of the SPD as shown in Appendix A and explained below:

1. (SCHED A) - Schedule A number for the item of GFE
2. (SEQ CODE) - SPD line item number
3. (NOMENCLATURE) - Self explanatory
4. (QTY) - Self explanatory
5. (DIRECTED $) - Self explanatory
6. (PROC. DOC.) - Latest funding document number for that SPD Part II line item. (PR, Contract, Allotment, Project Order, NAVCOMPT 140, etc.)
7. (RES/PROCESS) - Funds reserved for documents in process
8. (COM $) - Funds committed
9. (OBL $) - Funds obligated
10. (SURP $) - Funds available in Current Direction for this SPD Part II line item which are neither obligated, committed nor in process
11. (DEF $) - Funds which are obligated, committed or in process for this SPD Part II line item in excess of Current Direction
12. (KEY) - For PARM internal use

SHIP PROJECT DIRECTIVE

2F COG MATERIAL SPD SORT FINANCIAL REPORT PMS 381

SSN-686 APPROPRIATION 17X1611 SH 1234 BP 55 18 DECEMBER 1970 SPD NR 3819006 PAGE 4

SCHED A	SEQ	CODE	NOMENCLATURE	QTY	DIRECTED $	PROC DOC	RES/PROCESS $	COM $	OBL $	SURP $	DEF $	S270 KEY
197	13	V	AN/BLM-1	1		P001382	3,500				3,500	AC
198	14		AN/SRN-9A	1	104,700	PR95010	40,000			64,700		AO
198	14	A	AN/SRN-9A			PR95010	20,000				20,000	AP
198	14	B	AN/SRN-9A			PR95010	1,700				1,700	AQ
200	15		AN/WLR-6A(V)	1	392,900	68-C-1023			392,815	85		AR
200	15	A	AN/WLR-6A(V)	1	70,000	PR77703.32	45,500			24,500		AS
200	15	A	AN/WLR-6A(V)			PR16017	19,500				19,500	ASM ASN
			DIRECTED VIA PMS 381 MEMO. NOT BROKEN OUT.									
200	16	A	AN/WLR-6A(V)	1	45,000					45,000		AT
201	17		AN/BRD-6(3)	1	71,200	70-C-1110			95,550		24,350	AM
202	18		ECM CTL CABLE	1								BD
204	19		STAUNCH PLATE ASSY	1	13,500					13,500		BG
			SSN-686 TOTALS-		1,593,200		872,256	82,621	1,034,589		391,276	
			SPD NR 3819006 TOTALS-		3,195,400		1,395,432	306,134	2,032,280		538,045	

APPENDIX E

QUARTERLY GOVERNMENT FURNISHED MATERIAL STATUS REPORT

Format

The SPD Quarterly Government Furnished Material Status Report (Appendix B) will be maintained by PARMs and copies forwarded quarterly to the cognizant SHAPM; the first report to be submitted within 90 days after acceptance of the SPD. This report will be by each ship hull number covered by the SPD Part III Schedule (GFE Schedule, GFI Schedule, TSE Schedule) and will provide detailed information for each Part III item of the SPD as shown in Appendix B and explained below.

1. (A ITEM) - Schedule A, GFI or TSE Schedule Number from the Shipbuilding Contract

2. (SPD ITEM) - The Part III Schedule and the line item number in that schedule (e.g., A213, B31 or C14)

3. (PII NUMBER) - Procurement Instrument Identification number

4. (QTY) - Self explanatory

5. (BUY ITEM DESIGNATION) - The identification of an item of GFM to be procured

6. (TYPE PROC) - A symbol denoting the type of procurement prepared or to be prepared

7. (DELY DATE) - The dockside delivery date for an item on Part III as expressed in the Part III of the SPD

8. (AWARD DATE) - The date of contract award, either actual or planned as appropriate, for the acquisition of the Part III line item being reported

9. (LAST ACTION) - A symbol denoting the type of action in the sequence of acquisition actions which occurred last, and the date when the action took place

10. (NEXT ACTION) - A symbol denoting the type of action in the sequence of acquisition actions which is planned to occur next, and the date when the action is planned to occur

11. (COM) - Pertinent comments concerning the item being acquired

2MGR XXXX COG XX
PROC ORGN XXXXXX

QUARTERLY GOVERNMENT FURNISHED MATERIAL STATUS REPORT
BY FMA BY SHIP BY PY FOR X QTR FY XX

REPORT NO 1
DATE OF REPORT
PAGE NO

PMS XXX TYPE AND HULL XXXX XXXX PY XX SPD NUMBER XXXXXXXX

(1) A ITEM	(2) SPD ITEM	(3) PII NUMBER	(4) QTY	(5) BUY ITEM DESIGNATION	(6) TYPE PROC	(7) DELVY DATE	(8) AWARD DATE	(9) LAST ACTION	(10) NEXT ACTION	(11) COG
XXXXXX	XXXXXX	XXXXXXXXXXXXX	XXX	XXXXXXXXXXXXXXXXXXXXXX	XX	XX/XX/XX	XX/XX/XX	XX/XX/XX	XX/XX/XX	XXX
7x	6x	16x	3x	24x	2x	8x	8x	11x	11x	24x

129

COL (6)

TYPE PROCUREMENT CODE LEGEND

01 RESTORATION PROJECT ORDER
02 MIPR
03 PROJECT/WORK ORDER
04 ALLOTMENT
05 REQUISITION
06 SYSTEMS COMD PROCUREMENT REQUEST
07 NPO PROCUREMENT REQUEST
08 SELECTIVE ITEM ACQUISITION
09 OTHER

COL (9) and (10)

ACTION CODE LEGEND

01 PREPROCUREMENT CONFERENCE
02 TECHNICAL PACKAGE AVAILABLE
03 PR RELEASED
04 BIDS OPENED
05 CONTRACT AWARDED
06 GFM SHIPPED TO SHIPBUILDER
07 GFM DELIVERED TO SHIPBUILDER

APPENDIX F

MONTHLY GOVERNMENT FURNISHED MATERIAL STATUS VARIANCE REPORT

Format

The SPD Monthly Government Furnished Material Status Variance Report (Appendix C) will be maintained by PARMs and copies forwarded monthly, as required, to the cognizant SHAPM (See paragraph 2 below). This report will be by each ship hull number covered by the SPD Part III Schedule (GFE Schedule, GFI Schedule, TSE Schedule) and will provide variances and detailed information for variances to the latest Quarterly Government Furnished Material Report. The report is described in Appendix C and is explained below:

1. (A ITEM) - Schedule A, GFI or TSE Schedule Number from the Shipbuilding Contract

2. (SPD ITEM) - The Part II Schedule and the line item number in that schedule (e.g., A187, B29 or C42)

3. (PII NUMBER) - Procurement Instrument Identification number

4. (QTY) - Self explanatory

5. (BUY ITEM DESIGNATION) - The identification of an item of GFM to be procured

6. (STATUS VARIANCE) - Identification of the type of status variance (e.g., DELVRY DATE, if there is a delivery date change, BUY ITEM DESIGNATION, if there is a nomenclature change, etc. If a partial GFM delivery has been received, the entry PARTIAL will appear in this space). The column of the Quarterly Reports (Appendix B) which is affected will appear in this column.

7. (AUTH REF DOC) - Identification of document authorizing the change (e.g., SPD Revision No., ECP, letter, etc.)

8. (ORIGINAL) - Identification of the original planning date or schedule delivery date which requires SHAPM concurrence for change proposed

9. (REVISION) - If the variance is a delivery or procurement planning date change, the proposed delivery date will be shown. If the item itself is proposed to change, the letters ECP will appear.

2MGR XXXX COG XX
PROC ORGN XXXXXX

MONTHLY GOVERNMENT FURNISHED MATERIAL STATUS VARIANCE REPORT
BY FMS BY SHIP BY FY FOR (MONTH-YEAR)

REPORT NO 2
DATE OF REPORT
PAGE NO

FMS XXX TYPE AND HULL XXXXX XXXX FY XX SPD NUMBER XXXXXXXX

(1) A ITEM	(2) SPD ITEM	(3) PII NUMBER	(4) QTY	(5) BUY ITEM DESIGNATION	(6) STATUS VARIANCE	(7) AUTH REF DOC	(8) ORIGINAL	(9) REVISION
xxxxxx	xxxxxx	xxxxxxxxxx	xxx	xxxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxx	xxxxxxxxxxxx	xx/xx/xx	xx/xx/xx
7x	6x	16x	3x	24x	16x	16x	8x	8x

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2. Naval Ships System Command Instruction 7000.29B, Ships Project Directive System; implementation of, 7 April 1972.

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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
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4. TITLE (and Subtitle) An Evaluation of the Problem Areas in the Implementation of the Ship Project Directive Process		5. TYPE OF REPORT & PERIOD COVERED September 1973 6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) John Henry Morgan, II Norman Stuart Scott		8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS Naval Postgraduate School Monterey, California 93940		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS Naval Postgraduate School Monterey, California 93940		12. REPORT DATE September 1973 13. NUMBER OF PAGES 136
14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office) Naval Postgraduate School Monterey, California 93940		15. SECURITY CLASS. (of this report) Unclassified 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

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19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

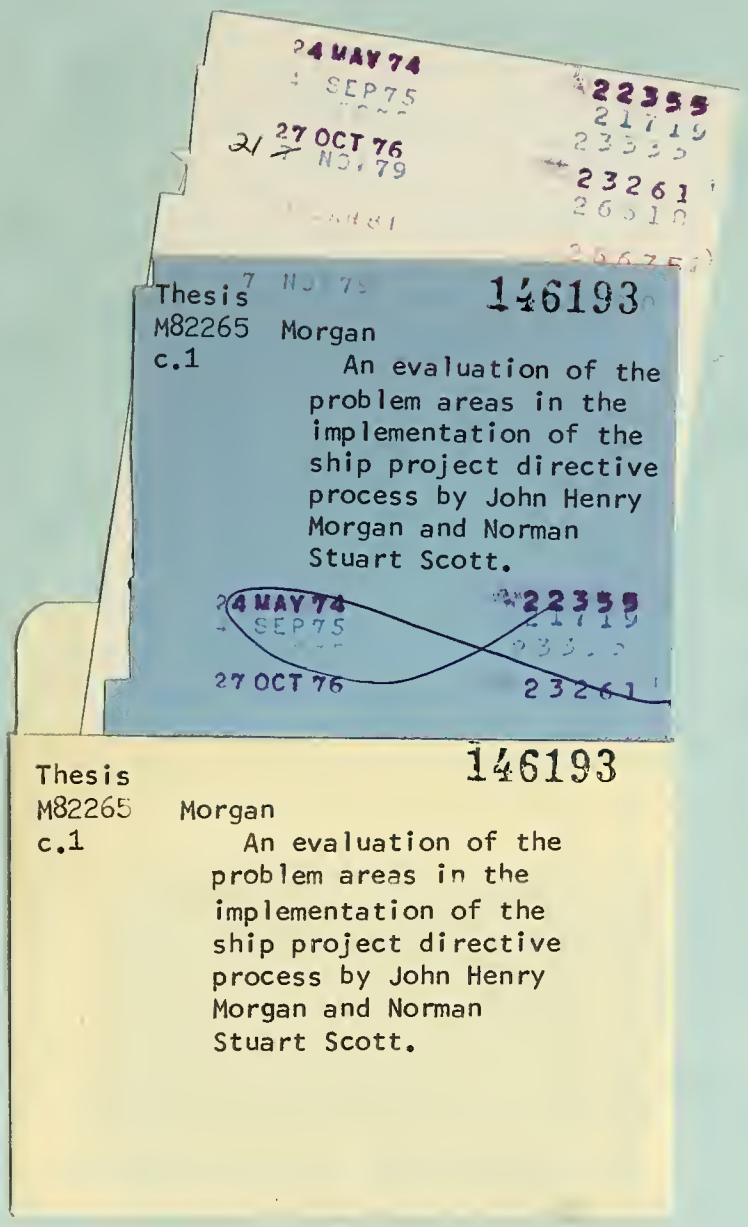
Ship Project Directive (SPD)
Ship Acquisition Project Manager (SHAPM)
Participating Manager (PARM)
Government Furnished Material (GFM)

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

The Ship Project Directive (SPD) System is the vehicle by which all Ship Acquisition Project Managers (SHAPMs) transmit their plans and requirements to a Participating Manager (PARM) for the procurement of Government Furnished Materials (GFM). Problems associated with implementing the SPD System, as defined by NAVSHIPS Instruction 7000.29B, were identified and investigated by interviews and questionnaires. As a result of this investigation, specific recommendations are made which will, in the

20.
authors' opinions, correct these deficiencies in the process.

19.
Government Furnished Equipment (GFE)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An evaluation of the problem areas in the implementation of the ship project directive process by John Henry Morgan and Norman Stuart Scott.
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